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ARTICLE I.

THE CLINICAL DIAGNOSIS OF BRIGHT'S DISEASE. By C. W. PURDY, M.D., Chicago.

To the careful student of pathology, the name of Bright's Disease, as applied to all that group of renal diseases characterized by the presence of albumen and tube casts in the urine, appears unscientific and inappropriate. The numerous and distinct pathological conditions of the kidneys, all giving rise to, or accompanied by albuminuria, and the various etiological factors leading thereto, would seem to indicate a generalization of pathology and causes too sweeping, in our days of scientific exactness, to be confined within the narrow limits of such a single term. It has hence been the custom with more recent writers to base the nomenclature of renal diseases on the pathological changes found in each case; and so minutely has this been attempted, that some confusion has arisen in the opposite extreme.

It is my purpose, in the present paper, to present the most practical facts and deductions afforded by careful clinical research, as we meet them day by day, rather than enter into even a synopsis of the voluminous literature on the minute pathology, and many abstruse theories connected with these morbid processes and their consequences. For purposes of familiarity, I shall retain the name of Bright's Disease as applied to what we know of chronic disease of the minute tubules of the kidneys, the intertubular fibrous tissues, and the small renal blood-vessels.

It is now fifty-five years since Bright published the first description of the morbid changes in these structures; or rather what he considered to be the various changes of one disease affecting these structures. This half century has been very fruitful in scientific discovery in this important field. To the foundations laid by the illustrious Bright, others have added, with the aid of chemistry and the microscope, a greater exactness and accuracy of pathological knowledge, and, as a consequence, a therapeutic success in cases which heretofore were deemed beyond the reach of science.

Not only this, but a startling array of diseases, some of the most perilous and fatal with which humanity is afflicted, slumbered in obscurity till recent investigation has demonstrated that albuminuria was the first link in the chain of their pathology.

Let us remember that the vast list of mortality arising from hæmorrhagic apoplexy, has for its cause, in the majority of instances, one that is now clearly traceable to renal lesion. Let the obstetrician bear in mind that the most alarming complication which he is destined to encounter, the *Eclampsia Gravidarum et Parturientium*, which strikes terror to the hearts of the firmest, is now known to be due, with scarcely an exception, to renal lesion. Again, what a vast army sleep beneath the sod, with the only scientific satisfaction that, chronicled with their names, is the old, respectable, orthodox epitaph, "*Died of Dropsy*," duly recorded in the death certificate. It is not too much to state that the majority of these succumbed to the results of some renal lesion.

Consider the very large number of acute inflammations within the chest, cardial, pleural and bronchial, occurring without assign-

able cause, and so rapidly destroying life, as a result of unsuspected renal fibrosis. These are instances of facts which surround us every day. Too often these lesions slumber unsuspectedly behind some trifling ailment, till some of the terrible effects of uræmia suddenly break forth in a vital organ, revealing the diagnosis only when it becomes too late to rescue the patient from impending death.

We perceive, from facts like these, the immense importance of an early diagnosis of these insidious renal lesions. Some of them are quite amenable to early treatment. Most of them are capable of therapeutical modification to the prolongation of life, when early recognized. All of them are well-nigh hopeless when discovered in their late stages.

It has seemed to me an unfortunate fact, that the whole range of organic renal diseases whose chief characteristic is albuminuria, have been looked upon by a large share of the profession as hopeless ones from the start. A patient, after ailing for some time, calls the attention of his physician to some swelling of his feet. The urine is examined, and found to contain a large amount of albumen and epithelial casts. Although the patient is comparatively young, with great natural resources, and as yet not seriously reduced to very decided anæmia, he is informed that he has Bright's disease, and his case is necessarily hopeless. Such is evidently a case of tubular nephritis not very far advanced, and quite amenable, in the majority of cases, to treatment. Numbers of such cases, under appropriate treatment, we now know are relieved of their dropsy, the urine rendered free from albumen and casts, and if they are not cured in the strictest sense, they at least live the usual length of life, and die of some other disease. I believe that many of those cases classed as parenchymatous nephritis, if recognized reasonably early, may be readily cured. Even in cases of renal fibrosis and amyloid disease, if only the diagnosis can be early established, many lives may be vastly prolonged, and many of the fatal complications often avoided by intelligent medication.

Assuming the above to be true, what an incentive it is to study with the utmost care the early recognition of these diseases. Some of them are quite easily diagnosed; so much so that they

should not escape the attention of the merest amateur. But, on the contrary, the class of fibroses begin with insidiousness, and continue to quite an advanced stage of development, giving but few signs of warning, and these are only recognized by the diagnostician who is ever on the alert for them. It has been my duty to attend two of my medical brethren, both ripe in years and medical experience, neither of whom suspected any kidney disease whatever in their cases, till the complications of advanced granular atrophy revealed the treacherous nature of their disease; and in both these cases, they had undoubtedly labored unconsciously under this lesion for years.

Brilliant indeed have been the revelations of chemistry and the microscope in renal diseases, nor would I in the least detract from the laurels so justly won in these fields. But it requires no expert in chemistry or microscopy to diagnose the form and stage of the most important renal lesions. Careful clinical observation, always the most reliable source of medical knowledge, finds no exception to the rule here.

While the above is true, I would point out the frequent and gross error of resting the prognosis on too superficial an examination of the case. On the discovery of albumen in the urine, the patient is often practically abandoned to his fate. Let us push our inquiries further than this. Ascertain by careful inquiry if the patient has become anæmic, emaciated, and if prostration is marked. In other words, how long has the drain of serum been undermining the vital fluid? Next, are there any evidences that urea, abnormally retained in the blood, is threatening to explode on the cerebral, pulmonary, or other vital organs? Ascertain as near as possible the quantity, gravity, reaction and appearance of the urine, and approximately the amount of albumen it contains. By means of the microscope, some knowledge will be obtained from the various tube casts; yet remember that almost any form of cast due to kidney lesion may accompany any one special form of these lesions. Next, the age, history, constitution, and all important physical characteristics of the individual *per se*, should engage the attention. When all these have been duly considered, together with other symptoms presently to be mentioned, an intelligent estimate may be made of the existing lesion, its stage,

whether or not the patient is threatened with immediate danger, and above all, what can be accomplished in the way of cure.

Having pointed out the prime necessity of an early diagnosis of renal lesions, we shall now call attention to the more important symptoms whereby we may more readily recognize each special morbid change.

CHRONIC TUBAL NEPHRITIS.

Parenchymatous Nephritis, Diffuse Nephritis, as it is severally called, is pathologically known as the large white kidney. In its early stages, at least, it is essentially a catarrhal inflammation of the minute tubules of the kidney. Like inflammation in other mucous structures, there is increased denudation of epithelium, at first of the mucous lining of these tubules. Deprived to a greater or less extent of this epithelium, serum with albumen readily transudes through their walls. Hence, the ratio of albumen is always high in this form of kidney lesion, reaching at times 80 to 90 per cent. by bulk. The epithelium, exfoliated in large quantities, mixes with fibrine and chokes up the tubes, dilating them, and from the hydrostatic pressure behind, become packed into casts or moulds, some of which escaping, we find them in the urine as the characteristic cast (epithelial) of the lesion. As the disease progresses toward the advanced stages, increased numbers of these tubules become blocked up, as an increased area of the organ becomes involved, the pressure from behind dilating these tubes, general swelling is the result. The whole organ becomes enlarged to two or three times its normal size. If we follow the changes on to the last stages, we find a secondary contraction in many cases. This latter has led to much confusion in pathology as to the true nature of the original lesion. It is probable that most cases of primary tubal nephritis, if they last long enough, finally have superadded to them interstitial disease, and, as a consequence, secondary atrophy. It would indeed be unexpected, as a result of so much obstruction and stasis of fluids, and actual inflammation in the network of tubes, if the inter-tubular fibrous tissues did not at length participate in the change.

Parenchymatous nephritis of the chronic form, which is that to which we shall limit our discussion at present, may take its

origin from acute nephritis, but in many cases, it begins insidiously, and without any acute preceding symptoms.

As to its etiology, constant exposure to cold and damp atmosphere, in the temperate zone, will be found the most common cause. The poison of scarlatina, and the hyperæmia consequent on frequent pregnancy, undoubtedly lead to it. It has a quite marked hereditary proclivity, often occuring in several members of the same family. Of the use of alcoholic beverages, in relation to which so much has been said, I do not think the proofs are conclusive enough to establish them among the frequent causes. In a large proportion of the cases, the disease concludes its whole course without any satisfactory cause becoming apparent.

In searching for the early indications of chronic nephritis, there are some symptoms, which, although vague, become of the utmost value if we are on the alert for them; for they lead us at once to examine the urine, perhaps before œdema of the feet, or some more advanced symptom, reveals the character of the disease. Perhaps the most constant of these is a feeling of unaccountable weakness and lassitude. The patient eats well and sleeps well, but discovers that he is weak, and goes to a watering-place for a few weeks, only to return home unimproved in strength. The cause is due to the drain of albumen from the blood being greater than the food can replace.

The condition of the skin is important; always dry, with a husky feeling. These patients seldom perspire. The hair partakes of this dryness, and becomes thinned. Observe, in many such cases, the early indications of anæmia; not constant, it is true, but when present, it is important. If symptoms as above present themselves, even though there be no œdema, examine the urine. We observe, first, that the urine is much diminished in quantity. This symptom is never absent, so long as the nephritis continues to advance, or remains in progress. It varies, however, and keeps pretty constant pace with the activity and extent of the disease. It may be reduced to two or three ounces in twenty-four hours, and if so, we know that the kidneys are extensively involved. In the latter stages, it should be noted that if, as often happens, fibrosis is superadded, the urine may be equal in quantity to the normal amount, or even exceed this in some instances.

Next, we note that the urine is of very high color, so much so as sometimes to suggest its admixture with blood, and this is often the case. The urine is not transparent, but smoky and cloudy, containing *debris* of broken down tissues, epithelium, etc. The urinometer will show the urine to be usually high in specific gravity, between 1020 and 1030, corresponding inversely with the quantity of urine secreted.

The urine in tubal nephritis will always be found to contain albumen; this condition is never absent. It will be present in larger relative quantities in this than in any other kidney lesion, and so constantly true is this, that it becomes almost diagnostic of this lesion.

It is a most important aid to the practitioner to be able readily ty estimate the presence and quantity of albumen in a specimen of urine, and without which cases do not receive the comparison day by day so essential to estimate the progress of the disease. The old method, with heat and nitric acid, takes some time to accomplish, and minor accidents are frequent, as breaking of tubes, or the boiling over of the urine and acid; and, moreover, if the amount of albumen is small, and the acid be added in excess, the albumen will be re-dissolved.

I have been in the habit, for several years, of estimating both the presence and approximate quantity of albumen by the method of Bödeker, as the quickest and most satisfactory. The process depends on the fact that albumen, in an acetic acid solution, is completely precipitated by ferrocyanide of potassium. I use a glass tube graduated to one hundred tenths of a drachm, which I fill with the urine to be tested. I then render the urine acid by the addition of a little strong acetic acid, and upon adding a few drops of the ferrocyanide of potass. solution, any and all the albumen present will be almost instantly precipitated. On setting the tube aside for a few hours, all the albumen settles to the bottom, and the percentage can be read off from the scale on the side of the tube, and compared, day by day, with sufficient accuracy for all practical purposes. To simply determine the presence of albumen, a small bottle of acetic acid and one of ferrocyanide of potassium solution may be carried in the pocket case. At the bedside of the patient, when necessary to ascertain the presence of albumen in

suspected urine, simply call for a wine-glass, fill it partly full of the urine, add the acid and solution, and the desired information is instantly obtained. This method will be found most delicate and reliable, as I have satisfied myself from repeated experiments, although the method of Méhu is claimed to be the most delicate by the very high authority of Newbaur and Vogel.

The microscope will reveal the presence of epithelial casts in large numbers, usually in the early stage of nephritis; granular casts later; and still later we may find fatty casts, or all of these may be present. From the indications enumerated, we are in a position to diagnose positively if we are dealing with a case of nephritis, and also to form a correct estimate of its extent, and amenability to treatment.

If we are only on the alert always for these symptoms, we shall sometimes be so fortunate as to be able to make a diagnosis of nephritis, even before œdema, or some other grave symptom, announces it unmistakably, and thus still more fortunate in being able to prolong indefinitely or save our patient's life. There are other and more prominent symptoms of chronic nephritis, among which may be mentioned dropsy; and it is probable that this symptom is never absent if the nephritis lasts any extended length of time. Beginning ordinarily in the feet, face or hands, it usually becomes general, involving especially the subcutaneous connective tissue. In some cases the swelling is enormous; so great, in fact, that rupture of the skin takes place, and the serum escapes in large quantities. The serous cavities frequently become the seat of effusion; in fact, almost constantly so in severe cases. Uræmia quite frequently occurs in this disease, but not so coustantly as in either acute nephritis or renal fibrosis. There are two reasons assigned for this less frequent appearance of uræmia in chronic tubular nephritis. One is that the appetite, for nitrogenous foods especially, is poor, and hence the source of production of urea is less operative. Perhaps the more probable reason is the storing up of large quantities of urea in the serum which occupies the large cavities and cellular tissues, and hence, not being present in the circulation in so large quantities at a time, is unable to reach the brain and other organs with damaging force. For the same reasons, probably, we do not encounter

the acute chest affections, visual disturbances, etc., so frequently as in renal fibrosis. Hypertrophy of the left ventricle of the heart I believe to be rare in uncomplicated tubular nephritis. In the latter stages, however, when secondary contraction follows, it will be found quite common. Dyspepsia is frequent, due probably to serous infiltration into the gastric mucous tract.

GRANULAR ATROPHY.

This brings us to the consideration of what is probably the most insidious and lurking form of disease to which the human frame is heir. Its appalling complications, when once they fall upon the patient, well-nigh banish the case from the domain of hope.

It is impossible to overestimate the stealthy manner in which this disease begins, and the silence with which it sometimes slumbers unsuspectedly for years. Nor is it possible to overestimate the terrible force and rapidity with which some of its complications destroy life, when once they explode with all their force upon some vital organ. A patient who has once fastened upon him renal fibrosis, from that minute literally hangs on the verge of a precipice, from which it will depend on the acutest powers of observation of his physician if he is rescued, or, indeed, even warned of his danger. Let us, then, study the landmarks and early signs whereby this terrible disease may be apprehended in its earliest manifestations.

Granular atrophy, *renal fibrosis*, or *interstitial nephritis*, as it is severally known, is essentially a chronic disease from its commencement. So far as the changes in the kidney are concerned, every step in the process is extremely gradual. Could we but limit the damage which this disease produces in the economy to the kidneys alone, we should have the satisfaction of prolonging immensely the life of the patient. This we cannot always do, but very much may be accomplished in warding off its threatening aspects, if only early discovered.

In searching for the earliest indications of renal fibrosis, a careful consideration of its etiological relations will frequently put us on our guard, even before there are any tangible symptoms

developed. One of the most prominent and generally acknowledged causes of fibrosis is gout, first noted by Dr. Todd; and indeed, in England it is quite commonly called the gouty kidney. We find urate of soda deposited in the intertubular fibrous tissue in many cases of renal fibrosis, and previous history of gout is so common a precursor of the disease, as to leave no doubt of its prominence as a cause.

Of scarcely less prominence may be reckoned the absorption of lead, which Dickinson claims is responsible for more cases than any other known cause, ultimately destroying more than half of those whose lives are spent in paint and lead works.

Other less noted causes are valvular disease of the heart, gonorrhœa extending to the bladder, and perhaps malaria. Renal fibrosis has a strong hereditary proclivity. I believe that long-standing stricture of the urethra of small caliber is at least a predisposing cause.

Renal fibrosis is a disease mostly of middle or advancing age, unlike nephritis, which latter is most common in early life.

Among the first symptoms of interstitial disease will usually be found polyuria; the patient rises at night once, twice, or oftener, to pass his urine. This is due to the fact that more urine is secreted than normal, and the patient should be carefully interrogated on this point. It will be found, also, that the urine is of unusually light color, and free from deposits, as a rule.

Attacks of vertigo, without apparent cause, should arouse suspicion, and lead to inquiry into the state of the vascular system. Palpitation, and a feeling of want of breath, may further suggest examination of the heart, which is probably always hypertrophied in granular atrophy. The heart sounds are very loud, the impulse at the apex strong, and heaving, and there is a flat prolonged diastolic sound, heard loudest to the right of the sternum, between the insertions of the second and third right costal cartilages.

Hypertrophy of the left ventricle of the heart, which so constantly accompanies granular atrophy, has received much attention, owing to the important part it plays in the many grave complications of this disease. Many explanations of this interesting pathological change are on record, but none of them seem

to me entirely satisfactory ; and it is probable that we do not yet know clearly the true causes of this change. Traube was the first to claim that it was due to increased blood pressure in the arterial circulation, consequent on the obliteration of the many arterioles in the kidney through advancing atrophy, and in this he is supported by Carl Bartels.

While I am satisfied that there is very decided increase of arterial blood pressure as a result of hypertrophy of the left ventricle, yet I cannot believe that the hypertrophy is due to any diminution of current in the renal vessels, for the following reasons: In chronic pulmonary tuberculosis. which has obliterated larger areas of vessels by far than are destroyed in atrophy of the kidneys, hypertrophy of the right heart does not follow; on the contrary, atrophy is frequently the attendant. Again, removal of the kidney surgically does not lead to hypertrophy of the left ventricle, nor does aneurism of the aorta; and lastly, hypertrophy of the left heart often begins early in fibrosis, before any considerable extent of the kidney becomes damaged.

Another explanation is, that owing to the accumulated waste products of tissues remaining in the circulation, due to defective action of the kidneys, the blood offers greater resistance to the arterioles and capillaries as it flows through them, and a more powerful ventricle is developed in order to overcome the increased resistance to the circulation. This would seem reasonable, were it not for the fact that both in parenchymatous disease and amyloid degeneration, there is the same retention of waste products in the circulation, and yet we seldom have hypertrophy in these lesions, unless granular atrophy becomes superadded to them. The explanation of Gull and Sutton is, that a general change in the whole vascular tubes is simultaneous with that in the kidneys, and part of the disease. As a consequence, the arteries partake of the fibroid degeneration, and lose their function of assisting the heart to a great extent in propelling the blood onward, and as a result, the heart compensates by developing a more powerful left ventricle. This would explain the early development of hypertrophy, and at the same time, the reason why it is confined to the lesion of granular atrophy.

Much information may usually be derived from the pulse in cases of renal fibrosis; in fact, it is frequently characteristic. It is described as yielding the impression of a "whip-cord," firm and rolling under the finger. It is very tense, quick in rhythm, and sharply defined. The carotids present much the same character, and may often be seen distinctly pulsating. In connection with symptoms referable to the vascular state, I have repeatedly noticed the occurrence of small aneurisms in superficial arteries, most frequently about the head, neck, and upper extremities.

It is not common, in the early stages of fibrosis, to find marked anæmia, and as a symptom it must be classed with those of the advanced periods of the disease. There is but little drain of serum albumen from the blood in these cases, and usually a good condition of digestion accompanies the early progress of the disease, thus easily compensating for what loss there is for some length of time.

Headache is a frequent and early accompaniment of fibrosis, sometimes extending over weeks, with short intermissions, and when no apparent cause exists for such constant headache, it should receive due consideration as a diagnostic.

A very annoying itching of the skin is often present in these cases, and sometimes becomes excessively tormenting to the patient. The skin is dry and rough, as in parenchymatous nephritis, and the patient perspires but seldom. Visual disorders occur very often, and are frequently the first apparent symptom the patient notices. These are of two kinds: one transient, and resulting from cerebral hyperæmia, owing to great fullness of the arterial circulation and powerful contraction of the left heart. The other often causes complete and permanent blindness, and is due to changes in the retina of the same character as we find in other tissues accompanying renal fibrosis.

Frequent and troublesome coryza is common as an early symptom, and it will be noticed that it is not much influenced by the usual remedies for that disease in its common form. Hæmorrhages from the mucous membranes, particularly that of the nose, are frequent. Uræmia of an acute form is often the first indication of the presence of fibrosis. It is frequently of an epileptic character, and it is probable that many cases of sudden

death from supposed epilepsy in the first attack are due to granular atrophy.

In all such cases of first attack of supposed epilepsy, where there is no well-defined previous history of the disease, the symptoms should be most carefully scrutinized, and the urine examined. The convulsions, often extremely violent, are repeated at short intervals, which is not so frequently the case with true epilepsy. A decided urinous odor is frequently perceptible in the breath of such patients, and on inspection, crystals of urea may often be noticed upon the skin. Dickinson mentions, as a diagnostic of uræmia, that the pupils are dilated; while in convulsions from congestive causes they are contracted. I have satisfied myself, however, that this is not always to be relied on. There is another form of uræmia which is the natural termination of all cases of granular atrophy, if death does not overtake the patient through some other complication. This consists of a drowsiness, slowly merging into stupor and coma. If spasms are present, they are more clonic, and confined to certain sets of muscles.

There is a marked disturbance of the nervous system in early fibrosis, a feeling of uneasiness, referable to no particular cause, and frequently irascibility of temper. Dyspepsia is occasionally present in the early progress of fibrosis, accompanied by morning emesis and even vomiting, and especially as the disease advances, it is nearly always present to a greater or less extent.

As a rule, we have no warning dropsy, as in tubal nephritis, to put us on our guard. It is true, we may have some œdema of the feet or legs, but if so, it is usually in the advanced stages, and scarcely ever becomes prominent. A large proportion of the cases pass through this disease without any appearance of dropsy whatever.

If, in consequence of observing some of the above symptoms, it is determined to examine the urine, we first note that it is rather pale in color, and of light specific gravity, 1010 to 1015. This is the rule, but it sometimes varies. Crystals of uric acid, of large size, frequently become deposited, if the urine stands some time in a vessel or test tube. There is an increased quantity of the urine voided. In reference to albumen, this is usually

present, though almost always in small quantities, averaging perhaps one-tenth that of nephritis. Albumen *may be* temporarily absent. If the patient is much reduced in muscular development, the appetite poor, and there be not much hypertrophy of the left ventricle, the amount of albumen will always be small. The character of the food, and the amount of exercise taken, also influence this symptom very much.

Tube casts of the pale hyaline kind are usually found to accompany early fibrosis, but, like albumen, may be temporarily absent. This absence is denied by some; but, making all due allowance for their scarcity and the difficulties in finding them, owing to their delicate outlines, and the properly adjusted illumination necessary to see them, still it is probable that they are sometimes absent in the early progress of fibrosis. In the latter stages, we may have present the dark granular casts.

Such, then, are the most reliable signs which accompany the early approach of granular atrophy. He who is the most minute observer, the most patient investigator; searching and probing every symptom to its source; going over his work repeatedly where the symptoms are obscure; comparing them from day to day, and from week to week if necessary; he alone will be rewarded by unveiling the secret haunts of this stealthy malady. Many of these early symptoms are readily referable by the patient and friends to other and minor causes, and it is their persistence, rather than threatening import, that leads him to consult his physician. Other and more grave symptoms occasionally accompany renal fibrosis quite early in the course of the disease. Hæmorrhagic apoplexy is a frequent and fatal one of these. "With blood-vessels weakened through altered nutrition, and often rendered brittle from atheroma; with redoubled power of the left ventricle, and with a blood much thinned from the renal drain on its fibrine;" it is no difficult matter to understand why this very serious complication is so frequent and so fatal. It unmasks at once the pathology and etiology lying behind the larger share of those cases of cerebral hæmorrhage with consequent paralysis or sudden death.

Pneumonia, pleurisy, pericarditis, and bronchitis of an acute and fatal character, frequently terminate the progress of renal

fibrosis. The urine, being copious in quantity, is yet comparatively deficient in solid constituents, as indicated by its low gravity. The blood becomes in consequence surcharged with a large excess of nitrogenous excreta. A disposition to inflammatory attacks, especially in the above-named organs, is the result. When once inflammation sets in, it is fanned by increased arterial pressure, and a blood loaded with poisonous materials. Hence the intractability and almost uniformly fatal result of these inflammations.

Emphysema, or œdema of the lungs, erysipelas, peritonitis, endocarditis, diarrhœa, vomiting of blood, hæmaturia, ascites, hydrothorax, and other symptoms, sometimes become a part of this far-reaching disease. They all deserve the most careful consideration in a comprehensive study of granular atrophy.

AMYLOID DEGENERATION.

This name was first suggested by the apparent similarity of the characteristic resultant deposit to starch or cellulose. Lardaceous disease is also the name frequently applied to it, and this latter has received the sanction of the Pathological Society of London. We shall, however, retain the former name, as perhaps the most familiar, in our description of this diseased process.

Amyloid degeneration of the kidneys is in no sense a primary renal disease, but in all cases is a local manifestation of a general dyscrasia, expending its force principally on the smaller blood-vessels and abdominal lymphatics. The kidneys, while the most frequent, are but one of the favorite seats of this morbid process. The tendency is to excessive deposit of morbid matter, probably dealkalized fibrin, in the vessels of the kidneys, spleen, liver, bowels and other organs. Concerning a general cachexia, then, whose primary seat is probably in the blood itself, we may expect to find the most valuable diagnostic information by a careful study of its etiology. Among the causative factors of this disease, the most prominent is purulent suppuration. By far the majority of cases of amyloid disease of the kidneys will be found to follow chronic suppurative destruction of tissues elsewhere. Caries or necrosis of bone; phthisis with vomicæ; ulcerated cancer; abscesses of long standing; extensive bed-sores; in short, any suppurative

disease, if exhaustive or of long standing, is exceedingly liable to lead to amyloid disease.

Bartels seems to think there is something in the nature of pus, which on absorption into the circulation, exerts a peculiarly damaging influence on the vessels, which leads to this degeneration. This may be so; yet it frequently happens that the evidences of amyloid disease do not become manifest till months or years have elapsed after the suppurative process has terminated.

I am inclined to believe that amyloid disease is rather a result of the general exhaustive effect of suppuration on the blood; as Dickinson expresses it, "an absence of the materials in the blood which go to make up pus," than the presence of the latter material in the circulation. This becomes more probable, when we consider that other chronic diseases whose tendency is to produce blood impoverishment, are also capable of giving rise to the amyloid degeneration. Syphilis, we find, is responsible for a large proportion of these cases. Its well-known tendency to produce anæmia, even in its early stages, indicates how profoundly it affects the vital fluid. Not only in its later complications of ulceration and necrosis, but before these lesions supervene, it is a quite common source of amyloid disease.

Scrofulous and tuberculous diathesis is considered to be a frequent cause of amyloid disease, resulting in a ratio of eight or ten per cent. of the cases. When we consider that these peculiar states of constitution have as their chief characteristic weak assimilation and diminished power of nutrition, and how nearly they are related to each other in many other respects; how often the tubercular disease springs from the strumous diathesis; how, as recent syphilographers tell us, tubercular disease is often the result of hereditary syphilis, we get a more comprehensive idea of the states of the system most prone to lead up to amyloid disease. It is probable that amyloid disease is due, not to any particular *materies morbus* in the blood exerting a poisonous influence on its vessels, but rather to a loss of balance between nutrition and waste, whereby the natural elements of the blood lose certain of their essential elements of nutrition, and a peculiar degeneration ensues, falling principally upon the vessels. It is immaterial whether this balance be destroyed through suppuration

and excessive waste, or through defective nutrition or assimilation; they both conduce to the same result, for amyloid disease will be most often found to follow in the tracks of the one or the other.

The diagnosis of amyloid disease is not shrouded in as much obscurity as that of nephritis, nor by any means in as much as that of granular atrophy. For the most part clearly traceable to direct and appreciable causes to which it is secondary, it is also accompanied, and often preceded, by prominent symptoms in other organs which are not likely to escape attention.

From what has been said, it is clear that we would expect decided constitutional change, generally, before local symptoms point to amyloid kidneys. If tubal nephritis or granular atrophy sometimes attacks the kidneys of apparently healthy and even robust individuals, it is never so with amyloid disease. If there be no obvious chronic disease in progress, there is yet a marked cachectic appearance of the patient, pointing to an altered vital fluid from some underlying cause. The patient has a chronic anæmic appearance, a pale, yet muddy, hue of skin, and his movements indicate a sense of languor and weariness.

In reference to the indications which the urine itself presents; there is more or less frequency of micturition, and the quantity of urine voided is always large, especially in the early stages; usually more so than in fibrosis. Thirst is pretty constant, and œdema of the feet likewise, in the majority of cases. The latter may at first be transient, disappearing at night, to return during the day, especially if the patient be about on his feet. Diarrhœa is a most constant and annoying symptom, rarely, if ever, absent. It is usually accompanied by dyspepsia and often by vomiting. Diarrhœa returns again and again, and is one of the most frequent causes of death. These disturbances of the digestive tract are due, in the earlier stages, to excessive secretion of the mucous surfaces and a morbid deposit in the vessels, and in the worst form, to ulceration. General dropsy is the rule when the disease becomes developed. The thorax usually escapes, but ascites is pretty constant, and almost always general cellular œdema is present. The urine presents characters in some respects similar to those of fibrosis. As before remarked, it is pale, and of large quantity. Its specific gravity

is even lower than in fibrosis. I have seen it reach 1004. Albumen is probably always present, and although it varies much as to quantity, as a rule, the latter is about midway between that of nephritis on the one hand, and fibrosis on the other. Unlike either interstitial or parenchymatous disease, in amyloid degeneration there is little diminution in the amount of urea excreted by the kidneys.

Casts are pretty uniformly present; mostly narrow fibrinous ones, but rarely are they numerous. The waxy and refracting casts are more common, especially in the later stages. Occasionally the broad casts found give a characteristic, dark-red reaction, when treated with iodine solution. Jürgens and Heschl, of Germany, and Cornil, of France, first called attention also to anilin-violet as a test for these casts. This strikes a red or pink color with amyloid material and some casts found in this disease. Some prefer this latter test to iodine, not only in detecting characteristic casts, but also pathologically, in testing amyloid deposits in the Malpighian tufts and renal vessels after death.

Enlargement of the spleen or liver or both very constantly accompany this disease. Precisely the same changes occur in the vessels here, as in the kidneys, and gives rise to the same pathological appearances and chemical reactions. It is said if tubercular disease of the lungs is in progress, when amyloid degeneration attacks the kidneys and liver, the former becomes arrested. I have verified this in one case.

I have observed two cases of diabetes mellitus, both of which were followed and accompanied by amyloid disease. Uremia occurs but rarely in the course of amyloid disease. It is probable that when it does so, that either nephritis or fibrosis has been superadded to the original malady. The same may be said of hypertrophy of the heart, rarely, if ever present, when it is so usually in the latter stages, and probably as a result of the addition of renal fibrosis.

As complications of amyloid disease; acute inflammations sometimes supervene, though with much less frequency than in any of the other forms of albuminuria. The serous inflammations are perhaps the most common, especially peritonitis. Pneumonia and pleurisy sometimes occur. Suppuration of the

cellular tissue, and erysipelas sometimes result when the dropsy is extreme, and thrombosis of the femoral veins sometimes occurs from the same cause.

Such, then, are the more prominent clinical characteristics which accompany these lesions, grouped together under the term of Bright's disease. It must not be forgotten that any one form of lesion giving rise to its own particular sets of symptoms, may, and frequently does become complicated with one or the other, of those described. It is common, for instance, for a primary parenchymatous disease in its advanced stages to have engrafted upon it that of fibrosis, and perhaps equally common for the last named disease to follow that of amyloid disease. The interexistence of these diseases has thrown much confusion into the diagnosis and clinical history of renal diseases, and calls for a careful differential study of the various symptoms.

First then, as to the history of the patient. If previously reduced by some chronic disease, as tuberculosis, scrofula, syphilis, or some lengthy suppurative process, it points strongly towards the amyloid form of disease. If the symptoms began in a vague protracted manner, extending over months, and the patient has a gouty history, or has pursued an occupation exposing him to influences of lead, it argues strongly for fibrosis. If again, the disease comes on after exposure to cold, or is not clearly traceable to other predisposing causes, it favors the presumption of nephritis. Age is an important consideration to note. Most cases of nephritis occur early in life; those of amyloid disease occur in early adult and middle life, while fibrosis for the most part is a disease of advancing age.

The urine, though subject to more or less variation in all cases, yet yields differential information the most valuable. Of albumen; if excessive in quantity, say 60 to 90 per cent by bulk, it indicates tubular disease; if smaller in quantity, say 20 to 50 per cent, it would be presumptive of amyloid degeneration; if extremely small in quantity, and temporarily absent, it is strongly indicative of fibrosis. The quantity of urine voided is much under the normal amount in nephritis; at least equal to, or somewhat more than normal in atrophy, and largely in excess in amyloid disease. The color is dark, and considerable sediment

is present in nephritis; while in both amyloid disease and fibrosis, the color is light and very little deposits are present. The gravity of the urine in nephritis, is rather higher than normal; in atrophy, it is somewhat under the standard of health, and in amyloid lesions the specific gravity is decidedly below normal.

Of tube casts; the epithelial variety are said to be characteristic of nephritis, at least they are present in larger numbers than in any other lesion. Fibrous casts are most common in atrophy, and the waxy refracting casts are most prominent in amyloid disease. Casts giving a red reaction with iodine solution, are characteristic of the last named disease.

Dropsy is constant, and early in tubular disease, less so in the amyloid form, and exceptional in fibrosis.

Of the complications of these lesions, hypertrophy of the left ventricle of the heart is a marked presumptive of fibrosis, accompanying almost every case. It is less frequently present in either of the other forms, and when present in these it is mostly in their advanced stages.

Uræmia is very common in fibrosis, probably much less so in nephritis, and rare in amyloid disease. Much the same order obtains in relation to the various inflammatory complications, as well as the disorders of vision. They are all most common in fibrosis; quite frequent in nephritis, and rarely present in amyloid disease. Hæmorrhages of the various forms characterize atrophy. Enlarged liver and spleen, with obstinate diarrhœa are peculiar to amyloid degeneration. If there be any symptom predominently characteristic of nephritis, it must be accorded to that of dropsy.

Thus we find a very substantial ground-work for the basis of differential diagnosis of these lesions under most circumstances, when they comingle with each other in the advanced stages, and present to us aggregations of symptoms apparently anomalous and inseparable; if we but attentively study the early symptoms of each case with the necessary perseverence, we shall always find that in the inception of the malady its symptoms leaned unmistakably towards one or the other of these distinctive lesions. If, then, we trace the history onward, step by step, it will often become clear to us, the time, and form of a superadded lesion, till

at length, what at first seemed a most perplexing conglomeration of symptoms, is in fact, but the expression of two independent pathological processes progressing side by side.

In cases of much obscurity in general symptomatology, if there is any rule more than another likely to elucidate the diagnosis of these lesions it is "the careful, repeated and systematic examination of the urine," so strongly insisted upon by Bartels. He who would know what is taking place in the kidneys, must thoroughly acquaint himself for weeks, and if necessary even months, with the character and contents of the urine. No single examination of this fluid so perpetually variable in health can possibly afford a comprehensive knowledge of its still more variable pathology, and he who studies these variations the most attentively through all the stages of these lesions is likely to become the most thorough master of the subject.

We urge a more thorough study of the earliest manifestations of these lesions, a research into their pre-clinical history, that they may more often become discoverable before they have advanced so far upon us as to largely compromise our therapeutical resources for their relief.

ARTICLE II.

CASE OF EPILEPTIFORM CONVULSION AND PARALYSIS DUE TO SYPHILITIC TUMOR OF THE CORTEX IN MOTOR AREA. Case from St. Joseph's Hospital, Nervous Department, PROF. D. R. BROWER, M. D., Physician in charge.

Reported by FRANKLIN H. MARTIN, M.D., Assistant.

The peculiarity and rarity of the following case, together with the completeness of its history and the rare opportunity it afforded for a post-mortem examination, justifies us in taking the considerable space we have for its report.

The patient had his first attack in the latter part of the year 1880. The following February, by advice of his family physician, Dr. Woodworth, he consulted Prof. J. S. Jewell. Through

the kindness of Dr. Jewell, I have been permitted to use the following history of the case, taken by him at that time: "February 14, 1881. R. S. P——, age 35, weight 174 pounds. Neuro-sanguineous temperament. Maker of deformity apparatus. Worked in a close room, not well ventilated. Before this time was a traveling man, and had been healthy. Had an injury when young, on the top of the head from a fall. Scalp wound. Never had sunstroke. No rheumatism. May have had syphilis. Has had other genito-urinary diseases. Has had organic stricture of the urethra. Has had considerable alcoholic abuse. Used, and uses tobacco, strong tea and coffee. No medicine habits. No malaria. Appetite good. Good eater and has been a high liver. Digestion only fair. Wind occasionally on stomach. Nausea rare. Costive—has to use laxatives. No piles. No bowel disease. No worms. Urine passes fairly when stricture permits. No pain in passing urine. Tone of bladder fair, and no bladder disease. Strong sexual desire, although thinks he has never over-done in this way.

"At times has pains in heart. 'Faints away,' or latterly 'has fits.' Heart palpitates easily. Hands and feet cool at times. Has rush of blood to head often. No lung disease. Sweats very easily. Has wandering headaches, more severe on top of the head. For a year or so prior to October last, had a node (?) on left upper forehead.

"Vision fair in right eye. The left eye has been blind for twenty years. Not a complete loss of vision. Cannot say whether the left visual field has any play of objects. Does not know the cause of his loss of vision. Hearing good. *Tinnitus aurium* at times. Other special senses in good condition.

"Rather strong, but myasthenic. Not often dizzy, but has at times dizzy spells. Has to cease work at these times and sit down. Co-ordination fair. Dynamometer tests, and tendon reflex fair. Does not sleep well. Dreams much. Bad dreams. Restless. Muscular twitchings. The patient is neurasthenic. Memory fair. Absent-minded. Cerebro-asthenic. Cheerful as a rule. Is irritable and easily annoyed lately.

"Came out of a nervous family. Brother died of nervous disease. Mother died of nervous trouble.

"October last, had a 'fit' at 12 at night; came on while asleep; another at 5 a. m.; unconscious. Next 'fit' January last. This one while in the shop at work. Since then has had several fainting spells. Begins with a staring sensation. There is a play of heat waves in visual field which rise upward—then he has the 'fit.' The pupils are dilated. Difficult breathing. Froths at the mouth, and hands clenched. Does not know about what way head turns, or whether convulsions are symmetrical."

At the time the above history was taken, Dr. Jewell put the patient upon a thorough course of the mixed bromides, and iodides. He was upon this treatment until May 5, 1881, when the following note was made: "Head turns to left during convulsions. Eyes turn away. Passes hand to mouth and works to remove his artificial teeth. Been much better. I advise him to go on with same medicine. He stopped medicine for ten days and had four 'spells.' Had warning of their approach, which gave him time to prepare. Had one lasting 15 minutes (? less). Had another the same night while sleeping. The next evening a light one, and did not lose consciousness."

July 2d, the following note was made: "Has had some slight attacks—six to ten. Begins now with a curious creeping sensation in the left side of the tongue, from tip to one-half distance back, and often, also, at left roof of mouth about the same distance back as on the tongue. Pulse weak. Confused in his head, but conscious, and at times unable to talk, but can think of the words. Aphasia lasts but a few minutes. Convulsions may be caused, by touching the left side of the tongue with a piece of paper, or anything of the kind, as he has done occasionally by accident. At one attack the whole left arm was utterly paralyzed in sensation for one-fourth hour, and weak as to motility. The left cheek feels heavy and dead after convulsions. Left arm yet weak."

At the time the above note was made, July 5th, a slight change was made in the patient's treatment, by adding to his bromide mixture fifteen minim doses of the fluid extract of ergot, and small doses of the tincture of digitalis.

Three days after this, he started for Yarmouth, N. S., where he remained until September, when he went to New York City.

Soon after reaching Yarmouth, he discontinued Dr. Jewell's treatment, and consulted Dr. Hutchins, of that city, who put him upon a bromide and ergot prescription with iodide of potassium. On account of a severe pain in the head that was troubling him at this time, he was given in addition to the above treatment, a prescription containing tincture of opium, tincture of cannabis ind. and gelsemium. After going to New York City in September, he discontinued all drugs, and received "electrical treatment" from some irregular. The next month he left New York and came to Chicago: staid here two weeks, and went to New Orleans. From there he returned the following April. From the time he left Chicago the first time (July 5, 1881), until a short time before he returned, the last of April, 1882, he was very well and able to work—having had but three fits during the whole time. While in New York he had "a stroke of paralysis." It was impossible, under the circumstances, to learn what, and how extensive this attack was. It was doubtless one of his severer convulsive attacks.

After returning from the South, the patient commenced to have frequent attacks of vertigo, accompanied by slight convulsive movements of the muscles of the face and eyeballs. These would come on suddenly while walking in the street, or while working. Sometimes the patient would be able, with a powerful effort of the will, to ward off an attack. The "spells" increased in frequency and severity, until he came under our observation at St. Joseph's Hospital.

The patient at this time, July 13, was able to walk about the ward, and to a certain extent wait upon himself. The convulsions came on at irregular intervals of fifteen minutes to an hour, and they would vary in length from thirty seconds to a couple of minutes. The patient retained consciousness during the convulsions to a remarkable degree. He would demonstrate this feature by remembering and commenting upon remarks that were made by the attendant during his attack. By irritating the conjunctiva, he would give signs of sensibility, and afterward ask why it had been done.

The "fit" would begin by the patient experiencing a twitching of the eyes, and oppression of the chest, by which he would real-

ize at once that the convulsions were about to appear. Clonic contractions of the muscles of the eyeballs, and of the superficial muscles of the left side of the face, would now begin, followed by like contractions of the deeper muscles of the face, soon extending to the muscles of the neck, causing the head to be convulsively drawn to the left side. From here the contractions extended to the muscles of the left shoulder, arm, fore-arm and hand, and finally, in the severer attacks, to all the voluntary muscles of the left side. Respiratory movements were very irregular. The face, which at the beginning of an attack was pale, during the progress of the "fit" became congested, and almost black. Both eyeballs were rolled upward, and to the left, by the powerful clonic contraction of their muscles; the eyelids were convulsively opened and closed, and the whole appearance of the patient was that of one laboring to contract every fiber of every muscle that was in action. The convulsive movements usually passed off suddenly, and the patient would immediately regain composure, and be ready to resume any conversation that might have been interrupted. The powerful contractions caused him much suffering.

After each "fit," the patient complained of powerlessness of the left arm, and as the convulsions increased in severity and number, this became more and more aggravated, and gradually extended to the lower extremities, and finally amounted to complete loss of motion of the muscles of the left side. This paralysis came on gradually during the last two weeks of his illness, and was not complete until about three days before his death. The right side was not affected. Sensibility was not much impaired.

By experimenting with the surface brain thermometer, we observed near the right parietal eminence, extending to the median line, a spot about two inches in diameter, that exhibited a well-marked elevation of temperature. Its outlines were well defined. Moving the thermometer the width of the bulb surface in any direction from this spot would make a difference in temperature of from two-fifths to three-fifths of a degree. With the exception of this particular spot, the temperature of the two sides of the brain was the same. The surface temperature, as taken

over this particular portion the last six days before death, and that of the other portion, may be compared in the following record that was taken at the time.

The first column represents the temperature of the right side over the surface mentioned; the second, that of the left side:

Friday morning.	98 3-5°	98°
Saturday morning.....	98 2-5	97 9-10.
Sunday morning.....	99 1-5	98 4-5.
Monday morning.....	98 2-5	98 1-5.
Tuesday morning.....	98 4-5	98 2-5.
Wednesday morning.....	100 4-5	99.

Thursday, died at 2 A. M.

The treatment the patient received while with us, was simply the mixed iodides and the bromides in appropriate doses, with the usual accompanying diet list, composed of the simplest nourishing food.

Post-mortem.—On inspection, the body exhibited old scars in numerous places, which helped to confirm the syphilitic theory. The superficial lymphatic glands were not apparently much enlarged. The body was well-developed; did not show signs of much emaciation. Upon removing the scalp, the surface of the skull presented nothing unusual. The calvarium was next removed. The inner surface exhibited nothing abnormal, except an unusually large size and number of the Pacchionian bodies. Turning attention to the brain, before disturbing its membranes or its position, the eye was at once attracted by a thick opaque deposit or tumor, about two inches in diameter, situated beneath the dura mater, on the upper surface of the right hemisphere. Its anterior portion occupied the posterior extremities of the first, second and third frontal convolutions; its posterior portion covered the superior extremity of the ascending frontal convolution. Its posterior border overlapped the fissure of Rolando, and its superior or internal border extended to the longitudinal fissure. The dura mater was closely united to the surface of the tumor, to the extent of from perhaps one and a half to two inches square, very much thickened, and of a yellow translucency. In a section made perpendicularly into the tumor through the dura mater,

it was seen that the dura mater, the arachnoid, the pia mater and surface of the brain were blended into an unrecognizable mass. There was some effusion into the ventricles and sub-arachnoid spaces. The membranes immediately surrounding the tumor gave signs of recent acute inflammation. The result of the microscopical examination, which was kindly made by Prof. I. N. Danforth, is given in the following report from him to Prof. Brower:

My dear Doctor:—I have studied sections of the nodule of brain-tissue you left with me some time since, and am satisfied that they are syphilitic in their nature, because, (1) I find the peculiar form in the blood-vessels described by Ranvier (Path. Histology, p. 351), and by him credited to Heubner, Greenfield and Barlow. This lesion consists essentially in a diminution of the lumen of the vessels, and this is due to two causes; thickening of the inner coat by a cellular growth very much like granulation tissue, or embryonal tissue; and also a thickening (hypertrophy) of the external layer (adventitia) and this is due to a multiplication of spindle cells—in fact, the production of a low form of connective tissue.

(2) I find the characteristic increase of connective tissue cells (cells of the neuroglia) in the indurated nodular masses. The branched connective tissue cells are not present—at least, I have not found them. But that is not an essential point; in fact, it only indicates that the connective tissue cells have grown too rapidly to admit of perfect differentiation.

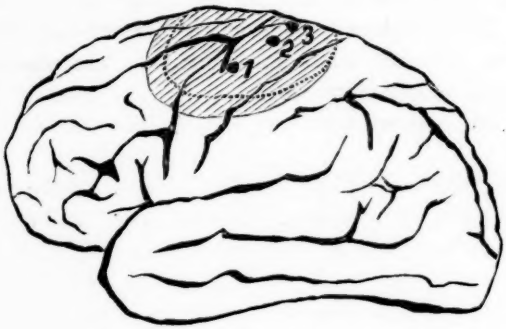
Yours truly,

I. N. DANFORTH.

It will be noticed that this case is one of the very few actual clinical cases reported that help to confirm Hitzig's and Ferrier's theory of motor localization in the cortex of the brain. Observe the accompanying drawing from Hitzig, with explanations, the dotted tracing giving location of the tumor.

Assuming that that the accompanying cut is correct in every respect, it is easy to explain the various manifestations of the convulsions in the different stages of our case, while the tumor was developing. The tumor commenced as a small nodule, undoubtedly, situated entirely in the membranes, and by its presence,

simply irritated the motor centers controlling the muscles of the face for one side, this irritation causing these muscles to contract.



The disease gradually extended in the membranes, irritating successively the motor centers for the upper extremity, the trunk, and finally the lower extremity. Soon the disease invaded not only the membranes, but the tissue of the brain immediately beneath them, thereby destroying the tissues or centers of motion it had heretofore but irritated. Of course, as these centers were invaded and destroyed, exactly to that extent were the muscles that they controlled paralyzed.

ARTCILE III.

LOCOMOTOR ATAXIA. CASE. RECOVERY. By A. M. CARPENTER, M. D., Professor Practice of Medicine, College of Physicians and Surgeons, Chicago.

It is so unusual for cases of the ataxic type to eventuate in perfect restitution, I feel constrained to lay before your readers the history of a well-marked instance—which may not correspond accurately with the description given of the affection by recognized authorities, but nevertheless quite prominent in its essential features.

November 13, 1879, was asked to visit F. W., aged 21, and treat him for paralysis. Coming into his presence, he at at once

apologized for his appearance physically, by stating that he was not intoxicated, as some of his neighbors had supposed, because of his tottering gait.

When asked to exhibit his walk he consented, staggering across the apartment, aided by two canes—declaring he had never drunk. The gait disproved the existence of paralysis; the heel struck hard after a spasmodic effort; the ball of the foot followed after an interval; no arc of a circle or dragging was described. Nor had he the faculty of adapting either foot to any special point. The same want of co-ordination obtained in the finger, which would alight on the chin instead of the lip; the distance between the feet during attempts at locomotion was diagnostic, especially while standing, which he could not do with closed eyes—nor was he capable of standing to do his morning ablutions without toppling over. The inability to walk increased, until he had to be supported. Anæsthesia of the plantar aspect was present. Sensory impressions were slowly conveyed, as evidenced by the prick of a needle not being felt for several seconds, while a heated iron was discernible, and responsive movements of the muscles was observed when tickling was practiced, which, according to writers, is explicable on the ground of there being four sets of fibers resident in each sensiferous nerve—and though these multiple fibers are in close companionship, they are susceptible of functionating activity as individual nerves, and may be pathologically deranged in their separate capacities without the nerve being altered in its entirety. Applying a hot sponge to the skin produced no effect, nor was there present "the constricting band" sensation so frequently present in myelitis, but our patient was sorely harassed with neuralgic pains, which were not domiciled in one spot, shifting from lower to upper extremities.

There was more or less confusion of intellect. The bladder was under the volition of the patient, which is not the case in paraplegia. Seeing that we had to wrestle with ataxia, the next point of inquiry was as to the prominent factor which sustained a causative relation to the malady. It was ascertained that he had suffered an attack of malarial fever, of a remittent type, some weeks prior to my visit, but which was regarded as insuffi-

cient of itself to have produced such a train of consequences. Upon further search, the discovery was made that the youth was an inordinate user of tobacco, and of the virile member in a solitary way—being of continent habits had never had congress with a female. The conclusion was reached that the lumbar spine had sustained the greatest shock, in acccordance with which our judgement was delivered, and hope of recovery held out to the family of the sufferer because of the age of the patient, and his general good habits aside from those already mentioned. Absolute quiet was enjoined as one of the conditions of success. The curious were prohibited seeing him, and shortly his tongue lost its confusion. In the course of a few weeks electric sensibility was restored to the extremities through the aid of spinal galvanization and general faradization. The hæmatosic function, which had been embarrassed since the attack of remittent, was gradually restored under the use of twenty-drop doses of dialysed iron, thrice daily. Ergot signally failed to better the condition of the cord, when the sixtieth of a gr. of phosphorus in union with the thirtieth gr. of strychnia, thrice daily, was employed for ninety days, with general amendment in all the symptoms, at which time he could propel himself with two canes very comfortably, though the gait was not quite normal. After the lapse of six months from the date of the attack locomotion was perfect. A letter of date of September last, from the patient, states that there has been no return of malady or anything akin to it.

It is foreign to the object of this hurried report to offer the plan of management as containing anything new. Suffice that it was a fortunate case for experimentation with stereotyped measures. It is possible that the diagnosis was faulty, and that the disease was an incubative state betweeen congestion and induration, which may be a crumb to those who aver that sclerosed cords are never recovered from. Whether rated as functional or lesional in its type the fact stands out, that according to the history as portrayed by some neuropathologists, it was a well-declared case of ataxia; was so adjudged, and perfectly recovered under a recognized plan of management with which every observant medical man is familiar.

ARTICLE IV.

INFECTION OF SCARLET FEVER. BY E. INGALS, M.D., Chicago.

Among some old notes of cases I find the following, which may be of interest, as bearing on the question of the communicability of scarlet fever. A gentleman living on a farm seven miles below Joliet, Ills., and one mile from the railroad station, had a daughter twelve years old, who spent the winter of 1872–3 in Chicago, living in the family of a sister, who was a resident of the city. In the month of February, she had an attack of scarlet fever and I was called to attend her. It was a simple case, quite devoid of interest, and the recovery was speedy and complete. During the period of her convalescence, after the eruption had disappeared, and when the patient was beginning to sit up, her father came from his home to see her, remaining one night with the family in which the child lived. In the evening the father held the child in his arms. In the morning he returned to Joliet, where he stopped, and was about the town transacting business until the evening train took him seven miles to his own station, from which he walked one mile to his home, reaching it about twelve hours after he had left Chicago. He had children at home, none of whom had previously contracted scarlet fever. Of the number, one sickened with the disease on the fourteenth, and another on the fifteenth day after the father's return from visiting his sick child in Chicago. Two weeks later, another child came down with the disease, and the others escaped. The children had not been from home, nor was any scarlet fever known to be in the neighborhood. The friends who gave me such of the above facts as did not come under my personal observation, were highly intelligent and trustworthy persons. Doubtless, the disease would rarely be communicated under circumstances such as I have narrated, though I believe it was in this instance, and the case suggests the care that should be observed if we would limit the spread of scarlet fever.

34 Throop st., Chicago.

ARTICLE V.

STOCKADING A LOOSE CARTILAGE WITH HARE-LIP PINS TO FIX IT FOR OPERATION.

By EDMUND ANDREWS, M.D., Professor of Surgery in Chicago Medical College.

A patient came to me from Dakota with a loose cartilage in the knee-joint. There was the usual complaint of its catching suddenly in the articulation so as to produce violent pain, followed by synovitis, and reason to fear that, by continued repetition of these accidents, destructive disease of the knee would be set up.

The object was of moderate size, and had this peculiar behavior, that it could not be cornered in the usual pocket in the antero-lateral fold of the synovial membrane where it laps over the edge of the tibia. Instead of this, whenever it appeared within reach, it was in the broad fold of the sac, where it laps upward on the side of the condyle of the femur. I found the space here was so wide that I could not retain the slippery cartilage in one spot long enough to extract it, for with the slightest change in the position of the fingers, I lost it into the interior of the articulation.

After being baffled in this way three or four times, I attempted to transfix the body with a cataract needle, but found it calcified, and so hard that I only bent the point of the needle, while a stronger needle, next resorted to, would not penetrate the object enough to get a secure hold.

Defeated in all these efforts, I next took a number of hare-lip pins, and inserted them down to the condyle in a circle around the floating body, and thus confined it in a stockade. Then, with a tenotome and a pair of forceps, I succeeded without difficulty in the extraction.

The operation was done under carbolized spray, and with all antiseptic precautions. A very slight synovitis ensued, but it was insignificant, and subsided without any evil results.

No. 6 Sixteenth St., Chicago.

Translations from Foreign Exchanges.

BY O. STROINSKI, M.D.

DOUBLE URETHRA IN MAN.

Double urethra in man is a very rare occurrence, so that Birch-Hirshfeld, in his new pathological anatomy, says: "There is not a single case stated of double urethra in man. But Vesalius already says: '*Hic adolescens juris studiosus mihi familiaris est, qui in glandis apice duos obtenit meatos, unum semini, alterum urinæ paratum.*' (This young student of law is well known to me, who has a double aperture on the glans penis; one serving for passing the urine, the other for separating the seminal fluid.") Cruveilhier mentions another case: *Il consiste dans une ouverture anormale, située sur la face dorsale du glande, à une petite distance du meat urinaire. A cette ouverture aboutit un canal, qui regne sur la ligne médiane de la face dorsale de la verge, et qui est lui-mème constitué par la réunion des deux canaux de l'urèthre; l'un ordinaire pour l'expulsion de l'urine, l'autre dorsal pour servir à l'emission de sperme.* The following case of double urethra is reported by Dr. Emanuele Luxardo, at Ragusa: A stout young farmer is suffering from chronic blenorrhœa, and on examining the penis, there are found three apertures on the glans penis. There is a vertical fissure on the glans, eleven mm. long, in the form of an oblong oval, the base of which is on the frenum. The upper aperture is linear and vertical, three mm. long, and measuring four mm. in diameter. The inferior aperture is four mm. long, and linear. Between these two orifices, and running to the basis of the fissure, there is a third aperture, circular, and penetrable by a No. 1 bougie. The labia of the

fissure are limited by this aperture, and they form a horse-shoe-like figure. A lateral part of this aperture forms a small triangle with the rectilinear inferior zone, the basis of which is four mm. long. There is a dilatation in the inner part, and this seems to be the regular fossa navicularis. The third aperture terminates on the inferior part of the zona. This aperture secretes by pressure a sthenic pus, and the urine was always passed through this aperture. None of the apertures were larger in diameter than 17 cm., and through the inferior aperture a bougie of this caliber was passed into the bladder. There was no connection between any of these canals, and not a drop of urine passed through the superior aperture, even when the penis was in erection. Injections of carmine into the superior canal did not color the urine. The relation of the prostate gland to the superior canal is uncertain, but the patient passed the seminal fluid through this aperture. The intermediate canal separated blenorrhagic pus.—*Giornale internazionale d'scienze mediche.*

DR. MOOREN, the world-known oculist at Duesseldorf, Germany, has published the experiences of his extensive practice in the last twenty-five years. The work done by him is really enormous. He treated at his private clinics, during this time, 108,416 persons. The material is therefore immense, but we will give here some points. The relation of hereditary eye diseases to defects of the auditory sense is marked, especially among the Jews. Paresis of the eye muscles, produced by rheumatic influences, is treated by sudorifics. Epithelial defects of the cornea, and abscesses on the same, of whatever character, are treated with physostigma, but in cases of pericorneal injection, atropine is applied. In iritis, atropine is not always indicated; in traumatic cases never. Dr. Mooren is not only an ophthalmologist *par excellence*, but he is also a good pathologist, as the following cases show: A high officer in the army suffered from temporary disturbances in vision. The bulbs were highly indurated, but there was hardly any excavation, and only the pulsation of the arteria retinæ was perceptible. Central vision was but slightly impaired. The case seemed to be one of glaucoma of central origin, the patient having suffered from rheumatism and from

syphilis a short before. Iridectomy was made on the right eye, and the patient went to another physician to take an antisyphilitic treatment (mercury ointment innunction). After two weeks' treatment, the patient came back, suffering from intense pains in the feet, and especially in the heels. There was general disturbance of the sight in the left eye. Paralytic affections were present in both limbs, and pains in the back and sternum. The diagnosis was now subacute myelitis. The glaucoma of the left eye was complete, and iridectomy was therefore performed immediately. But there appeared keratitis parynchymatosa in the whole cornea. Pains in the back and breast, and in all the terminations of the trigeminus; bladder intact. On the tenth day after operation, the right eye became inflamed, and there appeared also keratitis; vision diminished to the mere distinction of the light of a lamp. After two months' treatment with the mercurial ointment, the pains were gone, and there was but a little spot on the pupils. The ophthalmoscopic examination showed a slight atrophy of the insertion of the optic nerve. The treatment was now changed, pills of nitrate of silver being given. The wabbling walk of the patient disappeared, and vision was entirely restored. A second case was also very interesting. A lady, whose husband died with symptoms of syphilis of the brain, complained of temporary defect of vision in the left eye, there being no anomalies in the pupils or their surroundings. Both tibiæ showed osteous enlargements. While there were disturbances in the left eye, there was immobility of the body on the right side. The head was slightly turned to the left side. There was permanent headache during the last two months, and she had always sensations of becoming paralyzed, except when she sat straight on horseback. The diagnosis was syphilis of the bones. The increasing pains when lying on a lounge resulted from pressure of the processus odontoideus. Eighty innunctions with mercury-ointment were made, and syr. ferr. jod. was given at the same time. The lady recovered entirely. One of her sons became sick when seven years of age. The boy had a continuous headache, and he lost his memory. After a year and a half, vision became impaired. The diagnosis was neuritis opticus resulting from diffuse syphilis of the brain. Innunctions with

mercurial ointment, and iron with cod-liver oil, cured the boy entirely.—*Memorabilien.*

A CASE OF HYPNOTISM, WITH PHENOMENA OF REVERTED SENSES.

The patient, a woman twenty-five years of age, has always been healthy. At fourteen she menstruated, and at nineteen she married. Four months after marriage, the first symptoms of hypnotism and catalepsy appeared, but she recovered quickly. Then, when suffering from pains in the last molar, the phenomena reappeared, but after extraction of the tooth, she was well again. On the evening of July 5, 1876, she began to talk with open eyes, but then she recognized the persons around her, and even the color of their dresses. While simulation was suspected, a strong electric current was applied, and the muscles acted well, but the woman remained in the state of hypnotism. A stronger galvanic current suddenly provoked all the symptoms of grave catalepsy. In the hospital to which the now somewhat emaciated woman was taken, she was closely watched. In the intervals of the attacks, she speaks perfectly rationally, and there is no anomaly of sensibility. The organs of the thorax are normal, as also those of the pelvic cavity, and she writes her name correctly. During an attack, which can be produced at any time by pressure upon a certain point on the spinal column, the pulse and respiration are normal; the eyeballs convergent; the pupils slightly dilated. The muscles act but slowly under electricity, but a strong current excites the muscles of *both* sides of the body, so that when the right arm is electricized, the left arm will make the same movements. The hearing is abolished, and even the loudest noise disturbs the patient not in the least, but questions of persons acquainted with her will be answered. Pressure on any part of the body has not the slightest effect, except on the spot on the back. She speaks about her household duties; about the hospital and her disease; then of the stethoscope as of a large tube connected with a large basin, and to which she is fastened; but in mentioning her person, she speaks as of a third person. The voice is indifferent, and there is no intonation. There is increased excitability of the muscles, and anæsthesia of the skin. From

the former results the aggravated symptoms provoked by a strong current. In this latter state, the pulse and respiration are slow, the pupils dilated, and they do not react even when a full stream of light from a reflector is thrown upon them. When in the state of hypnotism, she is able, when given a pen, to write a better caligraphy than normal. After the attacks, which last from a few minutes to thirty or forty hours, she complains of headache and nausea, and she has not the slightest remembrance of what has taken place. So, when the attack has lasted a day or two, she thinks that she has slept one hour, and *vice versa*. Every person acquainted with her is recognized by a slight pressure of the hand, but other persons are absolutely absent for her during the attack.—*Gazetta Medica Italiana.*

POLIO-(TREPHO)-MYELITIS ANTERIOR.

The rarity of this disease, and its peculiar symptoms, have always interested physicians. The following case will show symptoms which are not always observed. A physician, forty-one years of age, and a very busy practitioner, felt suddenly a weakness in the lower extremities. During the day he was able to walk, but on the same evening he could not climb the stairs without being assisted. At first, the muscles of the upper part of the left limb were affected, and then the muscles of the right limb. Paresis of the lower extremities followed during the next two days, and on the fifth day paralysis of the same. At the same time, a weakness of the muscles in the dorsal region was noticed; then paresis and paralysis of the right and left arms, and at last the muscles of the neck and face were attacked. On the eleventh day, the *status præsens* was as follows: The patient is of a gracile structure, without panniculus adiposus; the lower extremities are paralyzed; the muscles lax; passive motion not impaired; perfect paralysis of the muscles of the middle part of the body; not the slightest motion can be executed by this part. Left arm motionless; on the right arm only the fingers can be moved. Paresis of the muscles of the face, but the mouth can be opened; the patient cannot spit out. The eyes can be closed and opened; knitting the brows is impossible, also deep inspiration and expectoration. With the exception of slight movements

of the head and the right hand, the body is motionless. Sphincters free. Urination but seldom; urine without albumen. Defecation must be brought on by high injections. The sensibility of the lower extremities is abolished; the sense of touch is lost; the patient cannot discern if a piece of wood or cloth is laid between the toes or fingers. Temperature and the sensation of pain very much diminished. The reflex sensation of the skin and the tendons is abolished. Pupils small, but they react normally. The patient is morally depressed, believing that he suffers from Gaudry's paralysis, and that he must die. After three weeks, decubitus set in, but after four to six weeks' treatment with the Faradaic current, the patient recovered entirely. There were some symptoms of syphilitic affection, and the patient had had syphilis twenty years ago, but the treatment proved the true nature of the disease.—*St. Petersburg Med. Wochenschrift.*

A Case of Sarcoma of the Brain, with Diffusion into the Cerebral and Spinal Nerves.

The patient noticed first a disturbance of vision (amblyopia). He then had a slight fever, with pains in the head and along the spinal column, and contraction of the lumbar muscles. Then vision returned, but there was strabismus. The contractions ceased after application of the Faradaic current. At last a paralysis of the lower part of the face set in, and muscular contractions of the left side of the face. Under these symptoms the patient died. On the left cerebral hemisphere there was an oval tumor of the size of a hen's egg, which was in correspondence with the middle lobe. It consisted of a grayish, friable mass, with softening and hæmorrhages around it. It was situated in the occipital lobe, in the parietal lobe, and it terminated on the surface of the brain, where it was fluctuating. In the hæmorrhagic surroundings there were found irregular trabecles. The softening extended to the superior part of the left lateral ventricle. The pia mater was uniformly opaque; the veins turgid; in the termination of the tumor into the pia mater was a hæmorrhagic spot. The spinal dura mater was also opaque, the veins turgid, and there were patches of grayish, soft matter. In many roots of the nerves, and especially in that of the cauda

equina, were present fusiform plaques of grayish color, with numerous hæmorrhagic spots. The occipital tumor consisted of fusiform cells of various sizes, with abundant protoplasma. Between the fusiform cells were dispersed round cells, with but little protoplasma. The blood-vessels and capillaries were enlarged, and the walls infiltrated. The small tumors of the cerebral and spinal nerves consisted of the same elements. The several dissections showed an infiltration of the epineurium, and that of the perineurium and the round cells formed a circular accumulation. The transverse section of a nervous fascia of a spinal nerve showed sarcomatous cells entering the epineurium and perineurium, following the injected fluid on the arachnoidal space. In this case there was a centrifugal diffusion of the tumor.—*Giornalei nternazionale delle scienze Mediche.*

PSORIASIS VULGARIS ACUTA OF THE SKIN AND THE MUCOUS MEMBRANES.

Psoriasis of the mucous membranes has not been observed either by Hebra or Kaposi. In Russia, psoriasis vulgaris is very common, and it offers a good field for observations. Dr. Pospelow, of Moscow, makes the following report: A servant-girl had entered the hospital for chancre of the anus, which she had had for three months. The chancres healed under the treatment of iodoform and lukewarm water. A day after the disappearance of the ulcers, red spots were visible on the back, the neck, and the palms of the hands, resembling those of roseola syphilitica. The mucous membrane of the mouth was reddened; swallowing difficult. On the following day, the exanthema spread to the chest, the abdomen and the lower lip. On the elbows, the knees, and the buttocks were formed soft silver-like epidermoidal scales upon the reddened epidermis. These scales were confluent, and formed large layers. Scratching off the scales caused a punctiform hæmorrhage, and a soft surface was visible. The scales appeared upon the mucous membrane of the lower lip, and then they entered the entire cavity of the mouth. Here the scales appeared as white swollen plates, distinctly circumscribed. On both sides of the uvula there appeared on the soft palate symmetrical violet spots, the tonsils being slightly enlarged. On the

back and the thorax, the eruption showed dendroid figures like those drawn in Neumann's Atlas on psoriasis. On the fifth day, the fever, itching and eruption ceased, but the formation of the scales continued. On the eighteenth day, the reddening of the skin was gone, and the lower lip appeared normal again. On the body there remained keratoid enlargements of the ducts of the sebaceous glands. Forty-nine days after commencement, the symptoms were entirely gone without any medication. That the eruption was not of a syphilitic character, the absence of enlargement of the glands, and especially the disappearance without any treatment, proves satisfactorily.—*St. Petersburg Med. Wochenschr.*

ON MALARIAL FEVERS.

The travelers in hot climates, as well as the inhabitants of those districts, are exposed to intermittent fevers when sleeping on the ground in the night air. It is, however, a well-known fact, that hunters of elephants are not attacked by any fever while used to fumigate the nude body with sulphur every day. In the neighborhood of Milan there is a large plain, where it is impossible to pass a night without being attacked by malaria. Here are the ruins of a once large city, Zephyria, which was in a flourishing state about 300 years ago. There are yet counted to-day the ruins of thirty-eight large churches, a large monastery, and a great number of palaces. Malaria decimated the population, and the houses are now deserted. Twenty years ago there were 200 inhabitants, all suffering from malaria, and in a miserable state. Their painful sufferings attracted the attention of the Greek government, and several efforts were made to dislocate the inhabitants, but they refused to go, saying that they were in the hands of God, and that they submitted themselves with resignation to the hands of Providence. The last of these miserable creatures died fifteen years ago. The thought of a city of forty thousand inhabitants being attacked by a disease and depopulated, the entire fanatical population being without any help, is rather horrible. There is no other example in history of a large city being thus destroyed to the last inhabitant. And not far from there is a very healthy region, where sulphurous vapors are

ascending from the ground, and where every inhabitant is free from intermittent fevers. In olden times, the whole island was saturated with sulphurous vapors, and then the population was healthy and prospered. But now Zephyria and Adamantor are deserted, and only Kastron, which is situated on an elevated plain, is inhabited. The facts above given show that sulphurous vapors are a sure preventative against all malarial poisons, and that fumigation with these vapors will prevent any infection with malarial poison.—*Revue Médicale.*

SUPPURATIVE OTITIS CAUSED BY TAMPONMENT OF THE NASAL FOSSÆ.

The tamponment of the nasal fossæ is made in hæmorrhages in the nasal cavities, and the blood-clots are compressed by the tampon. These blood-clots are also in the upper part of the pharynx and in the pavilion of the trumpet. If the blood is repelled into the trumpet and kept there, violent otitis will follow. The presence of the tampon gives rise to local irritation, and this is especially intense when chloride of zinc has been applied. The putrefied blood will increase this irritation, and in two or three days there will be a true pharyngitis. This inflammation will reach the cavity of the tympanum. The suppuration established around the tampon will enter the trumpet and cavity of the tympanum. The repeated epistaxsis which made necessary the application of the tampon has weakened the patient, and diminished his power of resistance. In certain cases, the epistaxis is accompanied by pyrexia, in which cases the mucous membrane of the pharynx and inner ear is in a state of inflammation. In one case, the intolerable pain ceased only after perforation of the tympanum by incision. It is therefore necessary to try first every other means, before applying the tampon. In a great number of cases, the epistaxis is located in the anterior part of the nasal fossæ, in which cases a small tampon saturated with perchloride of iron, and applied for a few minutes, will suffice to stop the hæmorrhage. The latter is often due to general hyperæmia of the mucous membrane, caused by a peculiar affection of the vessels and the blood itself, and in many cases an injection of warm vinegar will be the best remedy. Quinine and hypodermic

injections of ergot are the best remedies in the treatment of these cases.—*Revue Médicale.*

TREATMENT OF FISTULA ANI BY ELASTIC LIGATURE.

The elastic ligature was generally applied a short time ago, and it has been entirely abandoned at the present time, but in some cases it may be used with good results. In fistula ani, the division with the knife will sometimes provoke severe hæmorrhage; the application of the ecraseur requires administration of chloroform, and in galvano-cautery the same narcosis will also be necessary, which is an impediment in patients of a debilitated constitution. The application of the elastic ligature is very simple. If the fistula is complete, but the upper orifice is not easily detected, a stilette with the ligature is introduced. If it is necessary to perforate the muscular wall of the rectum, a pointed sound will suffice, on which is fastened the stilette. The very large fistulæ, with multiple orifices, must be divided at two or three points, and these separately ligatured. The thread should be of the smallest caliber. The thread is tied with a triple knot, or the ends are tied with another waxed thread. The force of constriction ought to be moderate. The drainage tubes must be of small size and elastic. The elastic ligature can be applied without anæsthetics, a circumstance of very great importance with cachectic persons. After the removal of the ligature, the patient should take sulphur baths. The cure is sometimes perfect, but in some cases there will be a return.—*Journal de Médecine et Chirurgie pratiques.*

CANCER OF THE PERITONEUM.

Primitive cancer of the peritoneum is rare, but some cases have been recently observed. The course of the disease is similar to that of chronic tuberculous peritonitis. In cancer of the peritoneum, the digestive troubles are hardly perceptible at first, but then they take a rapid development. The diarrhœa, when once started, is intractable, and therefore the course of the disease is a rapid one. Ascites is very frequent and abundant, and the fluid always contains a certain quantity of blood. Œdema of the limbs is always present, even in the first stage, and cachexia

appears very soon. Blood circulation is often impeded, on account of the large tumors in the abdomen, and there is often thrombosis in the abdominal veins. Cancer of the peritoneum is incurable, while some cases of tuberculous peritonitis will recover.—*Journal de Médecine et Chirurgie pratiques.*

ON GASTROSCOPIA AND ŒSOPHAGOSCOPIA.

The urethra and bladder are examined by an apparatus invented by Dr. Nitze, at Dresden, but all experiments to illuminate the œsophagus and stomach have been hitherto unsuccessful. Mikulicz, at Vienna, has solved the problem, after repeated experiments on the human corpse. The first difficulty to overcome is the constrictor pharyngis inferior, which closes the entrance of the œsophagus entirely. To overcome the contraction of the stomach, this organ has to be filled with air. The instrument consists of two parts, that for the œsophagus and that for the stomach. The œsophagus must be trained to the introduction of the instrument, and the latter must be so constructed as to be adaptable to the curvature of the sternum and dorsal vertebræ. The electric light is used as illuminating matter, and a current of water cools off the heated instrument. Six cases have been thus examined and diagnosticated, where all other means failed, among them a case of aneurism of the aorta descendens compressing the œsophagus. The instrument will doubtless be improved, and the many hitherto obscure pathological conditions of the œsophagus and stomach will be thus explained.—*Correspondenz Blatt f. Schweizer Aertze.*

CHRONIC POLYGASTRITIS.

Chronic inflammation of any organ of the body has three phases: 1. That of entrance of free lymphoid cells between the elements of the tissue. 2. Formation of soft and then of hard connective tissue. 3. Destruction of the original tissue by pressure. Chronic gastritis and polygastritis have been treated by internal use of warm water or Carlsbad. But in chronic polygastritis, the patient is so emaciated that Carlsbad interferes with his condition, on account of its debilitating effects.

F. Rotz has recommended injections of warm water into the stomach with the stomach pump, and he has had the best results by this method. The walls of the stomach are thus irritated, and the formation of new tissue accelerated.—*Pesth Med. Presse.*

PACHYMENINGITIS.

M. Langlet has found osseous products on the meninges in pachymeningitis. In the first case, he observed osseous spots half an mm. large in the frontal and parietal regions. In a second case, that of alcoholism, he found a blood-cyst, and in certain parts osseous embryonic tissue. In a third case, he discovered on the internal surface of the meninges an osseous layer, with some blood-vessels. In this patient there was mitral affection, with atheromatous arteries. Between the internal and external surfaces of the dura mater there were osseous spots of recent formation, in correspondence with other ossiform products in the internal surface of the cranium.—*Union médicale du Nord-Est.*

ON ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Dr. Rothe, at Altenburg, used the following treatment of this disease with the best results: The patient is placed in a well-ventilated room, with open windows, and is covered but slightly. A mixture of carbolic acid and alcohol, one gramm. each, tinct. aconit. two grms., peppermint water and syrup, fifty grms. each, is given, one teaspoonful every hour. If the temperature should be very high on the first days, cold swathings are applied. As nourishment, milk and buttermilk are given. The course of the disease was a very mild one in the reported cases, the fever already receding on the third day.—*Memorabilien.*

ASPIRATION OF A SEROUS FLUID IN THE PERICARDIUM. RECOVERY.

A boy twelve years of age suffered first from acute rheumatism. After two weeks, pericarditis set in, and suddenly the patient became asphyctic, the veins of the thorax being overfilled, and the action of the heart very irregular. An aspirator needle was inserted three cm. from the sternum, into the second intercostal

space, and then, no effect resulting, into the third intercostal space. One hundred grms. of a serous fluid were aspirated, and the patient recovered quickly.—*Correspondenz Blatt. f. Schweizer Aertze.*

PREGNANCY with imperforate hymen is frequently found in certain parts of Russia. The cause of it is the immoral habit of persons of both sexes sleeping together in one bed, there being often twenty or more persons in one bed. Being afraid of the consequences, there is practiced a manipulation which gives pleasure to both sexes, but which does not always prevent pregnancy. The "Skopzen," a religious sect, prevents this by castration of the males.

DYNAMITE (nitro-glycerine) is attracting attention among the medical fraternity in France. There having been several interesting suicides with dynamite, the article comes in fashion as a remedy for affections of the chest, and as an external agent in ulcers, etc. One thing is sure, *i. e.*, the ulcer is gone when the dynamite comes in contact with too much oxygen.

A CASE of polyorchism was observed in Bulgaria, on a farmer eighteen years of age. There were three testicles, two being on the right in the scrotum, one above the other.

GEORGE CRITCHETT, the well-known oculist of London, died on the first day of November, 1882, aged sixty-five years, from hypertrophy of the prostate with cystitis.

PROF. VIRCHOW, at Berlin, has recovered from an attack of nephritis.

DR. E. C. SEGUIN, whose recent crushing bereavement has so drawn upon him the sympathy of the medical world, is making preparations to spend some months abroad, leaving his professional affairs in care of Dr. R. W. Amidon, 41 W. Twentieth St., New York.

Selections.

THE BRADSHAWE LECTURE ON SOME RARE AND NEW DISEASES. Delivered at the Royal College of Surgeons of England on December 13th, 1882. By SIR JAMES PAGET, F.R.S.

Mr. President and Gentlemen :—It is my first duty, in delivering the first Bradshawe Lecture in our College, to offer a tribute of respectful thanks to the generous lady by whom it was founded, the widow of Mr. William Wood Bradshawe, a Fellow of this College, who practiced at Andover and at Reading, and died in 1866. He was a home-loving and studious man, who diligently cultivated his mind in both literature and science, and his widow, who survived him fourteen years, being desirous to testify her gratitude for the happiness which she owed to him, bequeathed a thousand pounds to this College, and as much to the Royal College of Physicians, on the condition that each should institute a lecture, to be given annually, and to bear his name. She desired that the lecture should be on some subject connected with medicine or surgery, and that the choice of the lecturer should rest with the President of each College for the time being. She made no stringent regulations, and seems to have wished only to maintain her husband's name in good repute by associating it with the advancement of the science which he loved.

In my endeavor to fulfill her examplary wish, I have chosen the subject of "Some Rare and New Diseases." I hope to be able, in speaking of them, to illustrate a part of the natural history of disease which I think is too little studied—that part, namely, which relates to the variations and the combinations of diseases in hereditary transmission. Besides, both in the choice

of its subject and in the whole enterprise of giving this lecture, I have looked for an opportunity of promoting pathology by promoting pathological museums, a motive which I am sure will be pardoned though I am conscious of its being in some measure personal for I have spent so much time and thought in museums that I feel as if, in their greater utility, I should myself become more useful.

Now, first, respecting rare diseases, there may seem no want of opportunities of studying them. Our journals and the proceedings of our societies are full of the records of rare cases; many collections of such cases have been published, and there are many rare specimens in every museum. All these have that kind of attraction which belongs to everything that excites our wonder, but we too seldom let the wonder have its proper consequences; we too seldom let it provoke our curosity so far as to make us search for the meaning and reason of the rarity. There is a question we should often ask ourselves—Why is any disease rare? At least, why is any rare which does not depend on some accident or some rarely occuring extreme cause? I shall try to suggest answers which may be, in some intances, sufficient; but I fear that, in more instances, if I can be useful at all, it can only be by suggesting how answers may be found.

First, there is a difference, though it may seem only a verbal one, between rare cases and rare diseases. A case may be called rare when, though it is evidently one of a common disease, it differs from the usual type or standard of that disease in some one or two features. Thus it is a rare case when a common disease is found in an ususual place; as an epithelial cancer on the upper lip, or this fatty tumor on a finger: or in unusual quantity, as in this large cartilaginous tumor on a femur; or again, a case may be rare in respect of the time of its occurence. For instance, I have lately seen cancer of the rectum ending fatally in a lad of eighteen, and scrofulous abscess in a man of eighty; and many of us must have seen instances, though they are rare (and these are very important in the history of diseases), in which manifestations of syphilitic inheritance, usually evident in infancy, have not appeared till the time of youth or even of adult age; or cases may be very rare in respect of accidental

complications or of the absence of some usual symptom. But of all these and other rare cases the number and variety are so great that it would impossible to deal generally with them, except as with mere story-telling. It would be very useful if someone would collect hundreds or thousands of them, and arrange them, even though it were only under such headings as I have just indicated. But even as they are singly and in disorder, let me say that we ought not to set them aside with idle thoughts or idle words about "curiosities" or "chances." Not one of them is without a meaning; not one but might be the beginning of of excellent knowledge, if only we could answer the question, Why is this rare? or, being rare, why did it in this instance happen?

But, because of their number and variety, I must pass by rare cases and will speak only of some rare diseases—that is, of some diseases which are rarely seen, and yet occur in a sufficient number of cases, and with sufficient uniformity, and sufficient difference from other diseases, to permit of their being described in general terms, and to justify their being called by distinctive names. And of these again, for they are numerous and various, I shall select that group which seems most attractive; the group of those, namely, of which there seems reason enough for believing—First, that they were, lately, new diseases and have become more frequent; and, secondly, that they are due mainly to morbid conditions changing and combining in transmission from parents to offspring. I say due mainly. It is certain that changes in the external conditions of our life have influence on even those morbid conditions which are most personal; but this influence is very hard or impossible to trace in the cases which I have in mind, and it may to-day be neglected though not forgotten. For, in all those cases, the personal factors and those of which alone I have to speak are more potent than the conditional, the inner than the outer. We call these diseases constitutional, diathetic, or by similar names; but the chief fact in them is that they, or the necessary previous states or predispositions to them, are inborn and inbred.

Let me first show that there is reason enough for believing that some rare diseases of this kind were recently—say within

the last century—new; and that more recently, though still rare, they have become more frequent. There is, I know, a general unwillingness among pathologists to admit that there are new diseases of this kind; and this unwillingness is often just, for many diseases that may seem new have probably existed long and been overlooked; they may be new in knowledge, but not new in fact. Bright's disease and Addison's disease were new in the sense of having first been well observed and described by those whose names they bear; but no one would venture to say of diseases so difficult to detect, as these used to be, that they did not exist long before they were well observed. We could as well believe that embolism never occured till just before it was found out, or that right-side hemiplegia used not to be associated with aphasia. These things were old before they seemed to be new; but how long they had existed neither records nor museums can tell. It would be, indeed, very interesting if we could tell the time and manner of first appearing in the case of many diseases which are now common; but it is scarcely ever possible. And yet, if you will allow me a digression, let me show what in some instances museums may supply, and what I hope they will in the future supply much more largely. Here are specimens of typhoid ulcers of the intestines preserved by Hunter. Few things have been more important in the knowledge of fevers than the clear proofs of the distinction between typhus and typhoid given by Sir William Jenner in 1850. It was one of the best life-saving discoveries of this century; before it both diseases were at least partially misunderstood, and neither was so well treated as now. Since the distinction between them was discovered it has been possible to trace in old records cases probable instances of both; but there is nowhere so clear evidence of the occurence of typhoid a century or more ago as is given in these specimens of Hunter's, preserved without name or history; not unobserved, and yet not in any fair sense understood. Now in this, as in many things, Hunter set us a good example. He did not think these things unimportant which he did not understand. He was a thorough naturalist, and kept specimens of everything in his field of study which, though not yet, might become useful.

But, however much of what seems to be new we may justly

ascribe to our previous oversight of what was old, there yet seems to be evidence enough that new diseases are in progress of evolution, and that, as I have said, some of the rare diseases of which I have to speak are the earliest instances of the new. Good evidence of this kind is to be found, I believe, in the peculiar joint disease discovered by M. Charcot in association with locomotor ataxy, and in the disease of bones to which I have given the name of osteitis deformans. Neither of these, I believe, was described till within the last few years. They may have been overlooked, but to believe this we must believe what is very improbable. We must believe that all the most acute and observant practitioners before our time overlooked, not merely obscure and transient diseases, difficult to study, but cases which lasted many years and gave constant great distress, and were manifested in signs so plain that they could recognized in the shape and gait, in the posture and whole aspect of the patients, in strangely large heads and curved limbs. And, further, we must believe that the morbid anatomists before ourselves overlooked changes of structure of the largest, most obvious, and most striking kind. It is, surely, very unlikely that they who studied and recorded such cases as those of extreme rickets and mollities ossium, and even called it rachitis adultorum, should have left unnoticed the cases of these two equally and somewhat similarly disfiguring and damaging diseases. This great improbability is strengthened by that which I believe to be a fact—that we have none but recently collected specimens of either of these diseases in our museums; not even among the crowds of bones and joints collected by our predecessors.

In twenty-six years I have seen twelve well-marked cases of the osteitis deformans, and about as many in which it was only partially evident. In the last six of these years I have seen seven of these cases, and others have been published, and yet I cannot find evidence that the disease was ever seen by any of those who had practice like my own; Brodie and Stanley, who saw as many cases of diseased bones as any surgeons of the last generation, had seen no case but which I showed them more than twenty-five years ago in the patient from whom these specimens were taken. Moreover, I cannot find on old specimen in our museums, or a repre-

sentation of one in any book of plates, or a description of one in any catalogue. This might not seem very strange in the case of specimens troublesome or expensive to keep, or in such as are said to "show nothing." But these are very striking deviations from health, very plainly to be seen, and dry bones are neither costly nor troublesome to keep. We have large numbers of them collected by Hunter, Howship, Langstaff, Liston, Cooper, Stanley, and others, who collected not merely illustrations of diseases well known to them, but whatever was curious, whether it was understood or not. They would have looked on these bones as gems.

I might repeat this statement in nearly every particular concerning M. Charcot's disease. I believe there is not an old specimen in our museums. There is not one in the Musée Dupuytren; I cannot find a notice or an illustration of one. And yet this disease is now so far from being very rare that Dr. Buzzard has had nine cases under his eye at one time, and several have in recent years been shown in our societies.

Let me adduce one more instance of what I believe to have been new diseases within this century, though the museum evidence is not so strong as in those of which I have been speaking. Many believe, and, I think, quite rightly, that instances of typical gout, such as gained for it the name "podagra," have lately become comparatively rare, and that a large number of less acute diseases, regarded as forms of incomplete or supressed gout, are much more frequent. It may be that some or many of these lesser forms were always as common as they are now, but were overlooked or were not distinguished from other similar ailments. But here is a specimen of the effects of phlebitis of the femoral and external iliac veins, which, with its history, may tell that gouty inflammation of the veins was fifty years ago, if not a new disease, yet a much rarer one than it is now. Sir Henry Halford saw as much of gout, I suppose, as any man that ever lived; for he was for many years, during a very luxurious period, in the largest practice among the richest people in this town. He gave an account in 1832 of what he called phlegmasia dolens in the male. The disease so-called was common and well-known in women after parturition; so that, to justify his essay as a record of cases hitherto unobserved, it was enough for him to speak of

phlegmasia dolens as occuring in men. He speaks of it as having been not long before regarded as "immediately occasioned by a deposit of milk;" but that "being tested by a more exact pathology," it was now atttributed to "an inflammation of the veins of the pelvis." And he says, "he was much mistaken if he had not seen three instances of it" in men "within the last few years." He then relates the case of the nobleman from whom, several years afterwards, this specimen was taken by Sir Astley Cooper—an admirable example of phlebitis, which we may be nearly sure was gouty, showing the changes in the blood-clots and in the walls of the veins during many years.

At the present time, phlebitis of this kind in the male can scarcely be called a very rare disease. There are few, I imagine, in large practice who have not seen many more than three cases within the last few years. So, we may believe, I think, that the disease has become more frequent in the last fifty years; and may suspect that not long before Sir Henry Halford's time it may have been a really new disease. It is hard to believe that it could have been overlooked. Its characters are strongly marked and evident to both eye and touch; it is a very painful, disabling, long-enduring disease, often recurring, sometimes observed in several members of the same family, and commonly leaving the affected limb large, heavy, and clumsy for many years. Could this have been overlooked when similar limbs, in consequence of an allied, though not the same disease, were known and described in women, and while, as it happened, the subject of phlebitis, in its traumatic and pyæmial forms was being very carefully studied? For there was a form of phlebitis much more common in the last century than in this; the phlebitis that occurred after bleeding. Hunter had studied this very carefully, had written on it, and shown it in these specimens; and after him, both this and the phlebitis after amputation were well-known. Especially after the beginning of this century the phlebitis after amputation was thoroughly worked at. It was only three years before the publication of Sir Henry Halford's essay that Mr. Arnott's renowned paper on inflammation of the veins was published in the Medico-Chirurgical Transactions. In the same volume are the chief papers by Dr. Robert Lee, on

phlegmasia dolens; and he describes cases of phlebitis associated with pelvic cancer; but not one spontaneous phlebitis is mentioned by either of them.

Now, I think that in all these facts there is enough, not, indeed to prove, but to justify the belief that we have here examples of disease which have appeared in this country for the first time within the last century, and which have since become sufficiently frequent, and acquired sufficiently constant and distinctive characters to be described in general terms and called by new names. Let me repeat; these are not the diseases hard to be discerned. They are so well-marked, so distressing, so long-enduring, and both during life and after death so large and distinct in all their characters that it seems impossible that, unless they were very much rarer than they are now, they could have been overlooked.

I think it probable that there are other examples of the like kind; but I do not know them, and would rather go on to the second part of my subject—namely, to show the probability, or at least, to justify the hypothesis, that these diseases are among the instances of the results of morbid conditions, changing and combining in transmission from parents to offspring.

It should hardly be necessary to argue that changes of type in inherited diseases—changes which may be compared with the variations of species or of varieties in natural history—do take place. Yet I venture to think that many of us are prone to think too little of these variations; to regard them as rather unmeaning exceptions, or as the results of some unusual external conditions diverting diseases from their customary course.

It will be better for us if we study, in pathology as in natural history, varieties as much as species: changes as well as the more stable forms. Types of disease there are, standard forms, and the tenacity with which they are maintained—some, even, from pre-historic times—in all the varieties of the conditions of our lives is one of the most remarkable facts in all pathology. But they are not unalterable. Types vary in diseases, as in species; even in the diseases which depend least upon external conditions, and most on the qualities which are transmitted by inheritance.

Let me give some reasons why this must be.

1st. An exact likeness is never transmitted by inheritance; neither an exact likeness of either parent, nor an exact composite of both. This is evident enough in features, size, weight, and all that we can observe in external things. If we could be exactly endoscopic we should observe equal variation within; the same want of exact likeness in liver and lung, and, I venture to say, in blood and lymph and plasma, and whatever goes to make the whole person, healthy or diseased. The inheritance of likeness in disease, or liability to disease is, indeed, clear evidence of the transmission of likeness in the very minutest structure and composition. But the likeness is never perfect, it may in different persons deviate this way or that; it may vary towards disease or back again towards the healthy type; but it is never perfect, and in successive generations its degree of unlikeness may increase to a a great width of difference.

2nd. The certainty and probable extent of this variation must seem the greater if we consider the mingling of diathesis, and of all dispositions and liabilities to diseases in transmission from and through both parents. Consider the difficulty of maintaining the "breed" in any of the varieties of the species domesticated or cultivated by us, in horses or dogs, in pigeons or in seedling plants; the care that both parents should be of the same blood, or the same race, and that their produce should be raised in all due conditions; and then consider how numerous and wide, in spite of all this care, are the deflections from the type. With these facts before us we cannot imagine that diseased conditions should often be transmitted singly and unchanged; it is, surely, not likely that disease should be transmitted with more fixed conformity to type than normal compositions are. Hybrids and mongrels must be even more common among diseases than among species and varieties.

3rd. And, in thinking of the variation of diseases by combining or convergence of inherited qualities, we may not limit our thoughts to a single generation. It is reasonable to believe that instances occur of reversion, in which diseases or tendencies to disease may appear after a lapse of many generations. Such, I expect, are some of the cases in which leprosy has been seen, even of late years, in this country in persons never exposed to

any of its external causes; and to the like of this we may refer, I think, some of the rare cases which defy all efforts to refer them to any combination of types of disease now prevalent.

Now, I half wish that I could escape from the necessity of testing my doctrine by my facts; but as I have often asked myself, so others may ask, how can the cases of rare disease of which I have been speaking, be explained as the results of morbid conditions changing and combining in transmission from parents to offspring. In the phlebitis we may often trace a variation from the customary type or standard of the very old and heritable disease, gout. In many cases its relations to typical gout are clear. The patients are members of gouty families, and in many of them other signs of gout are evident, either coincidently with the phlebitis or at other times; it has, in short, all the evidences of being one of the many forms of what is called "incomplete gout." But, for a reason why this variety of gout settles (if I may so speak) in veins, especially in those of the lower extremities, I can only guess at a convergence of inherited dispositions both to a modified form of gout, and to some condition of veins rendering them, among all the structures, the most sensitive to the gouty process. Certainly it is not accident which determines the disease to the veins, for this disease "runs in families." I know of its occurrence in two brothers and three of their cousins; and I have heard Sir Charles Locock tell of four sisters who had phlegmasia dolens, and whose father had crural phlebitis.

I am conscious that this is little more than guessing, and for the osteitis I must guess still further; or, rather, let me say that, to the furthest bounds of propriety, I must exercise that use of the imagination which may happily discern a way towards the truth. I imagine, then, that a likeness of the osteitis deformans to several other diseases may indicate a combination, in definite proportions, of transmitted dispositions to those diseases; a combination which has become possible by changes of the type of one or more of them. First, it shows some relationship to mollities ossium and rickets, for, though it is an inflammatory disease, which they are not, yet the softening which permits of the curving of the bones is distinctive, and hardly occurs in any other form of inflammation of bone in middle or latter life. And,

again, the relation of the osteitis to rickets and mollities ossium is notably indicated in the porous thickening of the skull, which is found in some instances of them all, and which is well marked in our specimens of genuine rickets from erroneous diet in young lions and young monkeys. Further, there appears some relation to gout, for some of the cases have known inheritance of gout, and instances are sometimes seen, in typically gouty persons, of a single bone having all the characters of the osteitis, though all the other bones appear healthy. Such a one is this femur, for the opportunity of showing which I am indebted to Mr. Bowlby, of St. Bartholomew's. There is a likeness, also, it may be said, to the osteo-arthritis and other forms of rheumatic gout in the remarkable maintenance of good general health during even many years of a painful and crippling inflammatory disease; and, further, there appears some relationship to cancer in the singular frequency with which cancer or sarcoma occurs in the healthy bones or other parts of those who have suffered for many previous years with osteitis deformans.

Thus, I imagine, by inherited dispositions, accumulating and combining or converging in definite proportions, this disease may be produced. I would try to imagine the genealogy of M. Charcot's disease, but that I have too little clinical knowledge of it. I can only suggest a combination of osteo-arthritis with syphilis chiefly localized in some spinal nerve center; but I believe far better suggestions may be made by those who, suspecting a combination of diseases rather than many radiating from one source, will carefully study the essays of Professor Charcot and Dr. Buzzard's admirable clinical lectures on Diseases of the Nervous System. Besides, I may seem to have guessed already more than enough. Let me, therefore, say that even if my guesses are wrong, my error cannot weaken the probability of the belief that these and rare diseases of like kind are instances of settled varieties of diseases, severally due to variations and convergence of morbid conditions in hereditary transmission. And if this be in any measure true, or even not more than a reasonable hypothesis, then it must be of great importance that we should know much more than we yet do of the variations which, in progress of time, diseases, or certain examples of them, may

undergo; of their deviations in a gradually increasing number of instances from typical or standard forms; their acquirement in those instances of other comparatively fixed and long-abiding characters; of the occasional disappearance of old forms of disease, and the evolution of new ones. Such variations in diseases should be studied as Darwin studied the variations of species. Let me be clear in saying as Darwin studied; for in the pursuit of new knowledge he may be a model to all, as he has been to me so far as I could imitate him. He, as I know, would have studied these things, not by deduction, as from a law exactly formulated and from which he could trace the course of every change, but by a most careful collection of facts, facts to be seen in specimens and read in full records, and stored in museums, and by a study as complete for every case as if no law of evolution had ever been discovered.

Let me add that the study of these variations of diseases is not one of mere pathological curiosities. It may be of great practical utility; let me show how, if only that I may provoke some to pursue it vigorously to whom mere pathology is not attractive. We hear much, and often, of the uncertainty of medicines; of disappointments in the use of this or that supposed remedy; and substances which have long been in good repute for the treatment of this or that disease are spoken of with disrespect. It need not be questioned that in many cases the belief in the utility of medicine has been maintained by completely erroneous observations. Such was the belief in the utility of infinitesimally small doses of anything ever yet swallowed. And other beliefs less evidently absurd may have been nearly as ill-founded. But there are many of which this is not to be said. It cannot be doubted that bromide of potassium is often very useful in epilepsy; yet sometimes, as we say, it fails; or that guaiacum is useful in some cases of chronic rheumatic arthritis, and is in others very disappointing; or that arsenic sometimes does not do good in cases of lymphadenoma. I suppose there is not a medicine in the Pharmacopœia which does not sometimes disappoint him who gives it hopefully, not one which is not, therefore, spoken of with contempt or blame, as if it were a responsible agent convicted of default. But here is an unfair im-

putation. It is not these medicines which are in fault, but ourselves. That which some call the fallacy of therapeutics is generally the fallacy of diagnosis. To state the facts roughly, we suppose cases to be alike which are really different; and, very naturally, the medicine that does good in some of them is useless in others. For example, in the group of cases which I chiefly have in view, we do not always discern when a disease has varied so far from its usual type that it is no longer amenable to its usual remedies. A better diagnosis must precede a better therapeusis. We need not only the diagnosis between diseases essentially different, but that between the different and varying forms of each of those which we call by a generic name; and beyond this, we need a more exact power of what may be called analytic diagnosis; for there are few simple cases, and in those which are not simple we need to be able to discern all the components, and the proportions in which they are mingled or combined. Better treatment will follow better diagnosis, and better diagnosis will certainly follow a more exact pathology.

Let me illustrate this with an instance which is besides of some interest in the study of the variations of transmissible diseases and of the utility of museums. Questions are often asked as to the changes which syphilis may, in course of time, have undergone; and, especially, whether internal organs were always, as they are now, liable to its attacks. It is hard to answer such questions on the evidence of any existing records; indeed, I might cite the whole history of syphilis as an instance of the insuffiency of records for the tracing of the natural history of diseases. But here is something suggesting what museums may do; a portion of muscle preserved by Hunter, and at least a century old, in which are morbid changes which may be safely referred to syphilitic gumma. Probably similar evidence may be found in other museums, and there are other facts significant of the existence long ago of these internal syphilitic diseases, as well as the improved treatment following better diagnosis. Fifty years ago, at the beginning of my professional studies, it was the custom, as it long had been, to give mercury not only in all recognized syphilitic cases and in most acute inflammations, but in a large number of cases of which one could scarely say more than

that they were all chronic and all obscure. Especially there were many such cases of what we considered chronic inflammation of the eyes, and of the brain and spinal marrow, the liver, and the testicle. To all of these cases it was customary to give mercury, till, as one said, "the mouth was touched," and thus some were cured, and some uncured, and some harmed. The cures were enough to keep the mercury in such good repute that it was given more and more generally; and then the disappointments, as they were called, became too many, and the mercury was blamed, and was almost disused for chronic inflammations. But, meantime, a more exact pathology, a pathology more exact both in its morbid anatomy and in its clinical studies, was discovering the previously unsuspected syphilitic diseases of internal organs; and with this better diagnosis a more judicious use of mercury, and good reason to believe that the chronic and obscure cases which mercury used to cure were those of syphilis overlooked. The case is an exemplary one of the relations between the true pathology and the right treatment of diseases, exemplary not only for encouragement, but for method of study; for the study was both clinical and anatomical, in the living and in the dead, with records and with specimens. Such must be our study of all the cases which I have chosen to speak of—the cases in which diseases deviate from their usual type, or combine in various proportions, after the manner of hybrids and mongrels or new chemical compounds. But there are some rules in study which are especially applicable to these cases.

1. We should very carefully study all cases which are not according to an admitted type. We should study all exceptions to rules; never thinking of them as unmeaning or accidental. Especially, we should never use, in its popular but wrong translation, the expression "exceptio probat regulam;" as if an exception to a rule could be evidence that the rule is right. If we use it, let this be in its real meaning; translating it, as surgeons should, that an exception probes a rule, tests it, searches it—as the Bible says we should "prove all things"—to its very boundary. In this true meaning the words may be an excellent motto for the study of all diseases that deviate from types.

2. We should look out for indications of the existence in the

same person of two or more morbid conditions or dispositions such as may be derived from both parents or from several ancestors. For, as in plants and animals there are hyrbids and mongrels, or, as in chemistry, many compounds and mixtures, so are there in diseases. We see them in the multiform varieties of what we have to call rheumatic gout; in gout crossed with scrofula, or syphilis crossed or mingled with scrofula or with gout. It is often not difficult to discern some of these combinations among our cases, and I know few things in practice more useful than to be able, even in some intances, to adjust our treatment to the proportion of each disease in the compound. But we may be sure that there is much more to be learned in this direction; and it is best to believe that we rarely have to do with a simple and unmixed morbid constitution. There are few worse habits in practice than that of commonly saying of our case "It is all gout," and of another it is all scrofula, or all syphilis. We might as well say of any Englishman that he is all Norman, or all Anglo-Saxon, or all Celt. We may, indeed, sometimes see persons who appear to be as types of races unchanged in many centuries, but in practice we had better study every man as, for better for worse, a composite of many ancestors.

3. We should have for all these cases a much more complete and exact study of all the personal conditions of disease than is now usual. Of course, this should include all that can be learned of each patient's family history; though there are few parts of medical inquiry more fallacious than this often is; and at the best it will need, besides, the exactest study of the patient's self. Perhaps the brilliant success which has been achieved by the recent studies of disease-producing organisms or other materials acting on us from without—a success not equalled in any other field of medical inquiry—has made some think too little of those changes within ourselves which occur in such ordinary conditions of life that they may be called spontaneous. Yet these are not less important in the production of diseases, and these must be studied; just as in agriculture soils must be studied as well as seeds. This is true even in respect of those diseases whose essential causes are most evidently external, even of those which are due to specific contagia; their germs of seeds, if I may so speak, will

not germinate in an unfit soil. I suppose there is not a day in which most of us do not inhale or come in contact with the germs of some frequent or contagious disease; but they do not germinate in us any more than do the seeds of tropical flowers in our streets or in the fields to which the wind scatters them; we do not offer the fitting soil. And even among those in whom they do germinate, the product varies according to the soil. And the study of this soil, this living soil, is yet more necessary in respect of diseases which come, in part or wholly by inheritance; for it is in each as personal and distinct as any other constituent of personal character, and the study of it must be intimately personal, with an exact analysis of every disposition to disease. The aim of pathologists in this direction should be for knowledge like that of the keen family practitioner, who, as he says, knows the constitution of every member of a family.

All this is equivalent to saying these variations in diseases mustbe studied both in practice and in scientific pathology. It is hopeless that either a practitioner who thinks lightly of pathology, or a pathologist who thinks lightly of observant practice, should do more in the study of these questions than attain to that measure of partial truth which is often as deceptive as error. Each must be tested by the other. The living and the dead must be alike and equally studied; and the dead must be studied in exact observations, with accurate records, and especially with museums.

I need not dwell on the vulue of good records, good descriptions, and good photographs, or other representations of diseases; but they never have been and, probably, never will be, enough. We need with them, museums, in which changes of structure may be preserved for repeated and revising study and comparison. For instance, in regard to the group of diseases of which I have been speaking, we ought to have in our museums specimens in which we might study all the gradations of change of structure from type to type, all the changes due to mingling of forms, all varieties of diseases, all hybrid forms. We need to be able to study all these things, and the naturalist or the comparative anatomist needs his specimens; not only for teaching what is known, but for continued re-examination and continued additions to his own knowledge.

And for complete study we must have large museums showing the coarse-naked-eye characters of diseased structures. I am sure no one will think me likely to depreciate the microscope; it has added, and will continue to add, more than can be told to our knowledge; but it has not diminished the value of other evidence; and in pathological anatomy, as in all our sciences, there are many instances in which the naked eye sees facts with more meaning than the microscopic one can.

This is especially true in the case of morbid structures resulting from nearly allied diseases, and therefore especially true for those of which I wish to urge the study. In morbid structures as in species, the nearer the alliance the less are the differences to be found in minute structures, and the more must we depend for distinctions on the study of visible shapes, and sizes, and constructions. I suppose that we could not with the microscope distinguish the human skeleton from that of the monkey; certainly, we could not distinguish one skull from another in all those varieties of national form which are collected in our museum. And so it is in many instances of morbid bone formation. I doubt whether microscopic examination could detect characteristic differences in each of this group of specimens. With the naked eye it is sure that this is a syphilitic node on a tibia, and this a growth beneath a chronic ulcer over the shin, and this a pedicled exostosis, or ossified cartilaginous outgrowth from the shaft of a long bone, and this an instance of osteo-arthitis, and this a portion of the skeleton of an osteo-sarcoma or osteoid cancer.

Moreover, it is to be observed that in morbid structures, as in those that are natural, in the same proportion as the aggregated elements of embryonic structures acquire their complete and final form, so do the bodies composed of them acquire distinctive shapes and methods of construction plain to the unaided senses. The ova of many species may seem alike both in outer shape and in their component elemental structures. But im proportion as these structures are differentiated, and developed into their higher and abiding forms, as into nerve fiber, and muscular fiber, and the rest, so the larger characters of even the nearly allied species —the characters of shape, and size, and appropriate construction of the whole body, and of each part of it—become more and more

different; and these constitute the real distinctive characters of each species.

And so it is in morbid products. The acquirement of distinctive shapes and methods of construction coincides with the development of elemental forms. For example, in these sarcomata are only the lowest elemental structures, round cells, spindle cells, and shapeless plasma; and the masses thus combined are shapeless, featureless, decisive by negation. But in these fatty, and fibrous, and cartilaginous, and bony tumors, in which the elemental structures have advanced to higher forms, the masses which they severally compose are almost as characteristic and distinct in visible shape and construction as are the several normal organs of the body.

In every case, then, both the largest and the smallest characters should be studied. The naked eye can discern one set of facts, the aided eye another; both are essential to complete knowledge; no one should be content with either, for neither is alone sufficient. So we must have large specimens as well as small ones, and certainly large ones for the study of the gradual variations of diseases as they deviate from typical forms and become variously mingled.

And now, as I come nearer to my term of time, let me, as is customary in certain other places, conclude with an earnest appeal to your liberality. We want liberal contributions, not of money, but of specimens to our museum. We want specimens of many kinds; of course we want whatever is rare, but not these alone; we want some to complete our series of typical specimens; and to keep to the chief subject of my lecture, we want the opportunity of choosing among many of what are called bad "specimens." We are all too ready to collect what are called good specimens as being well-marked instances of the standard characters of diseases, and to put aside as "bad" those which deviate from those characters, just as, clinically, we speak of good and bad cases of a disease. Of course, good specimens, typical specimens must be at hand for the teaching of pupils who have to study illustrations of the accepted descriptions of diseases; but it is among bad specimens, even as it may be among exceptional cases, that those who are past pupilage, though they have

not ceased to be students, may study the variations of disease. I ask the more boldly for contributions to the pathological collection, because of its present satisfactory condition and the activity of work in it. You will soon see it in the repaired and renovated building. Looking at the number and value of the specimens and the wide range of pathology which they illustrate; looking at the interest of the history of our science which is told in many of them; at the memorials of Hunter and Matthew Baillie, of Astley Cooper, Liston, Howship, Lawrence, Hammick, Ferguson, Hilton and many more; looking forward to what the museum will tell of the researches and skill of those who are still with us, and among whose names I venture to feel sure, Mr. President, that none will take precedence of your own, while men study the specimens with which your skill and just audacity in operating have enriched the series of diseases of the ovaries and uterus: looking at all these things, and then at the perfect order and condition in which the specimens are preserved, I feel that the collection is one which all we members of the College may feel personal pride in calling our own, and should feel a personal duty to enrich. And its utility is being constantly more appreciated. I have been often made happy by the contrast which I have seen while working at the new edition of the catalogue. While I was writing the last edition between thirty and forty years ago, scarcely a student ever entered the museum. Hour after hour I sat alone; I seemed to be working for no one but myself, or for nothing but the general propriety that a museum ought to have a catalogue, though no one might ever care to study with it. Now, and for some time past, a day rarely passes without many pupils and others being at work in every part of the museum.

All this is good; but much more is to be done. Our museum should be, even more than it is, the center in which all pathologists may find help in searches after that which is not yet known; in such searches, for example as may lead to a complete knowledge of the variations of diseases. For many years, even from the beginning, the anatomical and physiological departments of our museum have been not only a noble collection of specimens, but, through the renown and learning of its conservators, a great

center of teaching. Scientific men, especially comparative anatomists and anthropologists, have known that here, if anywhere, they could find whatever help a museum and a master in those sciences could give. A fortnight ago the president of the Royal Society, presenting one of the royal medals to Professor Flower, said: "Professor Flower has been for more than twenty years conservator of the museum of the Royal College of Surgeons; and it is very largely due to his incessant and well-directed labors that the museum at present contains the most complete, the best ordered, and the most accessible collection of vertebrate structures extant."

It is not for me to praise the pathological collection with similar words. But great as may have been its utility hitherto, we may be confident that it will henceforth be more useful than ever. In the vast increase of biological science it became impossible that one man should be nearly complete in the knowledge of both natural and pathological anatomy. I say impossible. I believe there is not such a one living; if there could have been one it might have been Mr. Flower. Now, we may hope as labors as "incessant and well directed" as his will be devoted specially to the pathological collection.

It is known to many of you that Sir Erasmus Wilson, in his usual liberality, gave the College £5,000, of which the interest should be spent in the promotion of pathology; and he agreed that this would best be done by helping to the appointment of a curator of the pathological department of the museum; and we have an admirable one. Mr. Eve is a worthy colleague and helper of Mr. Flower, excellent like him not only in knowledge, but in that which is even more rare, the love of museums, and of all that belongs to their maintenance and illustration, even to the making of catologues. In all these good qualities he has distinguished himself at St. Bartholomew's. I believe that we may rely on him for making as good use of the museum, and of all that can be brought to it, that the College shall be the chief center of pathology, even to the furthest point at which it can be studied in specimens of diseased structures. I beg your help that he may be so; and if I shall have helped to-day to this good result, the first Bradshawe lecture in our College will have fulfilled the purpose of its founder.

A Résumé of Twenty-five Cases of Abdominal Section,

By J. Ewing Meaers, M. D., Surgeon to St. Mary's Hospital, Demonstrator of Surgery in Jefferson Medical College, and Gynæcologist to Jefferson Medical College Hospital. [Read December 6, 1882.]

With a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care.

I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings.

Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors from the ovary; one was made in a case of encysted dropsy of the peritoneum (reported in the Transactions of this College, 3d Series, Vol. I); one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine fœtation.

As the case of encysted dropsy has been reported to the College, and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

Age of Patients.—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

Nationality.—Sixteen patients were natives of the United States, and six of Ireland.

Social Condition.—Five were single, one was a widow, and sixteen were married.

Duration of Growth.—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

Aspiration, or Previous Tapping.—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distention,

in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations which followed, of complications due to the previous aspiration, or tapping. In all cases, proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

Condition of the Patients at the Time of Operation.—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

Line of Incision.—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple, mono-cystic, non-adherent growth was extracted easily through an opening one and a half inches in length; whilst other tumors, polycystic in character, with numerous and strong adhesions required incisions from four to six inches in length in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor, for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures—iron or silver wire—the needle being carried so as to include the peritoneum.

Adhesions.—In eighteen cases adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger; in others, they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst.

In a second case a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion, in the form of a cord, at least two inches in thickness, and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hæmorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short, and the ligatures permitted to remain "*in situ.*" In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

Character of the Cysts.—Four cysts were unilocular, sixteen were multilocular, and in two, malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

Double ovariotomy was performed in two cases.

Primary or Secondary Operation.—In one case the operation was secondary, ovariotomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in post-mortem examinations made, in cases in which death occurred some years after ovariotomy.

Treatment of the Pedicle.—In all but one case the pedicle was secured by the application of the clamp; in the case excepted, a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an

extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hæmorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detachment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all of the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual. In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariotomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal cases which occurred, the ligature was applied and the pedicle returned to the abdominal cavity ; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess; in such cases it would appear proper to employ the clamp.

Drainage.—In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariotomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

Antiseptic Precautions.—In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patient during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under the system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by the agents employed. The constitutional effect of the carbolic acid has been observed in two or three cases in the condition of the urine ; other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation occuring as it did without being accompanied by a corresponding increase of the pulse-rate attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal, 98½°. On the day of its appearance the temperature rose to 100°, and on the third day reached 100⅖°, then declined to 99⅗–99°, and on the day of the cessation of the flow returned to the normal, 98½ —the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened, causing the formation of extensive adhesions, in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours, in the former time, mono-cystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation and after-treatment have occurred in but two cases. In one already alluded to the adhesions were so extensive as to complicate seriously the operation and to render the result fatal. In the other, the slipping of

the ligature and the persistence of hæmorrhage for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsing before she was able to leave her bed, in which period there occurred in order the following complications—obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation and a condition of blood poisoning with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception all the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital, and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments, so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule, sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy chair. At the end of the third week gentle exercise about the house, and in favorable weather, in the open air was allowed. This exercise was continued daily, so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given—at the end of this time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonsful of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures

and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap water and olive oil were administered on the eighth day and on alternate days, subsequently, until evacuations occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one-sixth to one-quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases—three after operation for the removal of ovarian cysts, and one after operation for the removal of the child in extra-uterine fœtation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hæmorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariotomy was performed.

NOTES ON THERAPEUTICS. By R. L. MACDONNELL, B.A., M.D., M.R.C.S., Assistant Demonstrator of Anatomy, McGill University, Montreal.

Every medical man has his share of the worry and annoyance arising from the treatment of hysterical and allied disorders. He who has an hysterical spine in his practice cannot be happy. He is doomed to be supplanted by the hydropathist, the homœopathist, or the movement cure man. In Montreal, we are constantly hearing of such cases being cured by faith, and, inasmuch as the miracle is much advertised in the evening papers, we are assured of a fine supply of such cases in the future. What bliss it must be for the hystero-malingero hypochondriac to read the record of her sufferings in a newspaper, her early history, her devotion, her domestic virtues, how many doctors came, saw, and shook their heads. The Weir Mitchell plan of treatment has come to the rescue, though, and will undoubtedly do much to keep the neurasthenic out of the hands of the quack.

The profession in England seem to hold a very high opinion of this line of practice. The "Systematic Treatment of Aggravated Hysteria and Certain Allied Forms of Neurasthenic Disease," was the title of a paper read by Dr. Playfair * to open the discussion upon this subject at the meeting of the British Medical Association at Worcester last August.

Dr. Playfair has had eighteen months' experience of this treatment, and has not only acquired a daily increasing confidence in the value of Weir Mitchell's method, but has had more satisfactory and surprising results from it than he has ever before witnessed in any branch of his professional experience, and now he more confidently undertakes the care of a well selected case of this kind, than he does that of almost any other malady that comes under his notice.

When he talks of the "useless system of drugging with so called nerve tonics," one feels inclined to cry "hear, hear." At the same time that we are giving these medicines, the psychological causes are all at work, "the injudicious and constant nursing, the craving for sympathy, the fact that the sick-room becomes the center of interest for the patient and her friends, the constant discussion of feelings and symptoms." At this period of pessaries, of lacerations, of flexions, which has succeeded the "ulcerated os" period, and now, when every pain, every ache, every passing abnormal sensation, is pounced upon by the gynæcologist as appertaining to his special field of work, it is highly comforting to read the words of one so eminent in that branch of medicine as Dr. Playfair. "It would be a great mistake, however, to conclude that there is any necessary or constant connection between the two. Indeed, although very frequently the nerve state has originated in connection with uterine disease, in a large proportion of the cases I have seen, it has completely overshadowed the original local disorder. I am not sure that I should not, in common honesty, make the somewhat humiliating confession, that, in many instances, overmuch and injudicious local treatment has, in my opinion at least, intensified and kept up the now dominating neurasthenic disorder, as in a

* *British Medical Journal*, August 19, 1882.

case under my care as I write, in which the patient may fairly be said to be suffering from pessary on the brain—so incessantly is she thinking of one or other of the seventy-nine different instruments she has had inserted in the last few years in America and in this country."

The case best suited for systematic Weir Mitchell treatment is the worn and wasted, often bedridden woman, who has broken down, either from some sudden shock, such as grief, or money losses, or excessive mental or bodily strain, beginning with simple debility more and more yielded to, until at last all power of effort is lost. Coincident with this is the total loss of appetite, the profound anæmia, and the consequent wasting of the tissues.

Then follow the graver forms of hysterical disease, such as paresis, or paralysis, vomiting, disorder of motion, hystero-epilepsy, and many others which constitute the despair of the physician.

The principal elements in the systematic management of these cases are:

1. The removal of the patient from unhealthy home influences, and the placing her at absolute rest. 2. The production of muscular waste, and the consequent possibility of assimilating food, by what have been called "mechanical tonics," viz.: prolonged movement and massage of the muscles by a trained shampooer, and muscular contractions produced by electricity. 3. Supplying the waste so produced by regular and excessive feeding, so that the whole system, and the nervous system in particular, shall be nourished in spite of the patient.

Dr. Playfair cites four cases to illustrate the class of disease to which this method is applicable, and the uselessness of all ordinary treatment in such conditions. In one of his cases no less than twenty-five medical men had been consulted, this number including the names of many of the most eminent consultants in the country, of itself a sufficient proof that all that the most advanced medical knowledge and skill could do had been tried in vain.

Case 1. A young lady with hysterical vomiting, which she had had for six years. Latterly, she could keep nothing upon her stomach but a single mouthful of milk, and this only when

mixed with whisky; so that in this way she was taking three to four glasses of spirit daily. Weight 63 lbs. In three days after isolation, she was keeping down two quarts of milk, without the aid of whisky. In ten days she was eating with an enormous appetite, and in six weeks she left town weighing 106 lbs., a gain of 43 lbs., and has since remained quite well.

Case II. A girl aged seventeen. Hysterical hemiplegia of four years' standing, during which time she had never been out of bed. Severe cough, which had resisted all medication. No food could be taken beyond milk, a biscuit and an orange. At the end of a month Dr. Playfair drove her out in his carriage, dropped her at the top of the street in which she lived, and made her walk down to pay her parents a visit. She has since remained quite well. The cough ceased forty-eight hours after she was removed, and was never heard again.

Case III. This next instance is an example of the kind of case best suited for this treatment. No definite illness; no simulated disease, but a general breakdown. An invalid all her life; sometimes headache and nausea; at others, spinal irritability, giddiness, etc. Never happy unless seeing a doctor or taking physic. She was wasted to a skeleton. Her chief complaints were nausea, headache, backache, intense nervous depression and timidity (so that she was unable to speak to a stranger), and absolute anorexia; skin dry and rough; menstruation irregular; entirely dependent on chloral and morphia for sleep. Had been nine years upon her back. In six weeks she was walking about. She now plays tennis, goes out to picnics and parties, and enjoys life like any one else.

Case IV. This case must be well known to many members of the profession, since there is scarcely a consultant of eminence who has not seen her during the sixteen years her illness has lasted. Dr. Playfair's acquaintance with the case is curious. He first saw on the esplanade, at Brighton, a remarkable party at which everybody was looking. The chief personage in it was a lady, reclining at full length upon a long couch, and being dragged along, looking the picture of misery, emaciated to the last degree, her head drawn back in a state of opisthotonos, her

hands and arms clenched and contracted, her eyes fixed and staring at the sky. There was something in the whole procession that struck him as being typical of hysteria. She had been dragged about Brighton in this way for ten or twelve years. Dr. Playfair took charge of the case on January 14, 1882. She had exhibited the following symptoms since 1864, when she was first attacked with paralysis of the left arm: complete paraplegia; left hemiplegia; complete hysterical amaurosis. She had been bedridden since the illness began, and had not passed urine spontaneously for sixteen years. There was "awful suffering in the spine, head and eyes," requiring the use of chloral and morphia in large doses. The following are the brief notes from Dr. Playfair's note-book on the day of his first visit: "I found the patient lying on an invalid couch, her left arm paralyzed and rigidly contracted, strapped to her body to keep it in position. She was groaning loudly at intervals of a few seconds, from severe pain in her back. When I attempted to shake her right hand, she begged me not to touch her, as it would throw her into a convulsion." Said to have had epilepsy as a child. Daily and hourly attacks of loss of consciousness. The left arm and both legs are paralyzed. Takes hardly any food, and is terribly emaciated.

The first night she was in the Home Hospital, in Fitzroy Square, she shrieked and groaned so much that no one in the house was able to sleep. On the next afternoon, between 3 P. M. and 11:30 P. M., she had had nine violent convulsive paroxysms of an epileptiform character. The next day she was quieter. On the fourth day she passed urine spontaneously, and the catheter was never again used. In two months she went a sea voyage to the Cape. She now remains in robust health, and joins with pleasure in society.

In the discussion which followed, Dr. Clifford Allbut mentioned a case he had sent to Dr. Playfair from Yorkshire. She was removed to London under chloroform, swung in a hammock. She was cured in about six or eight weeks, then went on a sea voyage, and had been perfectly well ever since.

Dr. H. Bennett (Weybridge) felt inclined to break a lance in

favor of the old Hippocratic doctrine, which referred hysteria in many cases to the uterine organs, especially in young females. He had introduced to the profession a fact now generally acknowledged, viz., that uterine disease, inflammatory and otherwise, was not unfrequently found in virgins. He had, in many cases, cured them merely by getting at the disease, and removing it.

Dr. Playfair in reply, said that he had not sufficient experience of the effect of the treatment in men, although, doubtless, in suitable cases it might answer well. In chorea it certainly did good. Real organic disease is a positive contra-indication. Hitherto none of his cases have relapsed.

AGARIC IN THE NIGHT-SWEATS OF PHTHISIS.

Agaric * is a fungus of the larch. It is known in botany as the agaricus laricis, boletus laricis, and the polyporous officinalis.

It is an old remedy, having been in use in the treatment of the phthisis for over a century. Dahen used it successfully in 1797. Rayer, of Paris, employed agaric in a large number of cases at the Hôpital de la Charité. A pamphlet was published by E. Bisson, in 1832, containing an account of the results of its use in fourteen cases, as follows: 1. White agaric may be employed with advantage in the treatment of the night sweating of phthisis. 2. In doses of four, six, eight, or ten grains, given at bedtime, for some days, it usually checks sweating, when the patient is not at the same time suffering from diarrhœa. 3. When diarrhœa is also a prominent symptom, the agaric should be given in combination with opium. 4. When the diarrhœa is persistent, and not checked by opium, agaric is contra-indicated. 5. Agaric not only checks sweating, but induces sleep and prevents exhaustion. 6. Even if powerless to cure phthisis, it retards the progress of the case, and relieves the patient of one of the most dangerous and distressing symptoms. Andral, in the Hôpital de la Pitié, used it extensively. The dose employed was usually from six to eight grains, in two pills, gradually increased to thirty-six grains, divided into six pills. On one occasion, he gave a patient first

* Dr. Murrell—*The Practitioner*, November, 1882.

thirty, then forty-eight, and finally sixty grains. It checked the sweating, but caused violent purging. Trousseau usually gave about nine grains at bedtime.*

Dr. Murrell has treated sixty-four cases of night sweating with agaric. In fifteen of these there was cavity of the lung. To ten of the patients he gave pills of three grains of the powder each. The sweating was checked, but the action was slow, and not certain.

The pills of the powder being bulky, he gave to eight patients three-grain pills of the extract of agaric. Each pill was the equivalent of nine grains of the powder. The results were better. To thirteen patients thirty-grain doses of the powder were given. This set up purging. Twenty-grain doses reduced the sweating, and did not cause diarrhœa.

Dr. Murrell concludes that it is a good remedy, and there are times when it may be used to advantage; but he much doubts if it is equal to atropia, picrotoxine, pilocarpine or Dover's powder.

Dr. John M. Young † takes a more favorable view of the drug. He used a tincture of the powder, of the strength of ten grains to the drachm, but the active principle agaricine, in 1-12th-grain doses, was found a more convenient mode of administration.

His conclusions are as follows: 1. Night sweating becomes lessened proportionately to the amount of the drug administered; and if sufficient doses be given, becomes effectually checked or prevented, according to the time of administration. It works well in cases of sweating not dependent on phthisis. In the quickness of its action it resembles atropin. 2. Its effect in sweating is not more marked than its effect in producing sound sleep, and relieving troublesome cough, especially that of phthisis. This is the fact most notable to the patients themselves, a gradually increasing feeling of drowsiness following its administration, in most cases. In one case in particular, the first large dose of tincture of agaricus checked troublesome and painful coughing during the night.

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* Agaric has a place in the French Codex. Its preparations are a powder and a liquid extract. A general account is to be found in the *National Dispensatory of Stille and Maisch.*

† *Braithwaite's Retrospect*, July, 1882, p. 72.

Fungus Agarici is mentioned in Quincy's "Compleat English Dispensatory," London, 1749. It is classed as an eccoprotic, and no mention is made of its being useful in any other way. Dr. Grant, of Ottawa, advocated its use in acute rheumatism. His article is to be found in the *British American Journal of Medical Science* for 1862, Vol. III., p. 92.

Iodine in Erysipelas and Small-Pox.

The *British Medical Journal* has published lately, amongst its therapeutic memoranda, statements commendatory of the action of iodine as a paint in erysipelas. Strangely enough, this old practice was given as if it were something new. After a month or so, the author discovered that he was in error in supposing he was the originator. My earliest recollection of erysipelas was seeing a friend's face painted in this manner. All the medical writers whose works are at hand mention iodine in this connection. Fourneaux Jordan, quoted by Ringer, recommends blisters or iodine. Tanner ("Practice of Medicine") states that "boundary lines may be drawn on the sound skin with tincture of iodine or nitrate of silver." Smith ("On Diseases of Children") thinks it a better remedy for arresting the extension of erysipelas than nitrate of silver. It should be applied to the margin of the sound skin to the distance of two inches. In the 1848 edition of "Dunglison's Practice of Medicine," Dr. Davies, of Hertford, England, is quoted to the effect that the tincture of iodine, diluted with two parts of alcohol, and applied by means of a camel's-hair brush, is an excellent application.

In the issue of the same journal, of September 30, 1882, Dr. Henry Tomkins writes that it is useful in the above-mentioned modes of application, more particularly the one quoted by Dunglison in 1848. In small-pox, too, he advocates its use. Now, long ago, at least thirty years ago, Dr. Crawford, one of the physicians in the Montreal General Hospital, and a lecturer in McGill College, published an article containing the results of his treatment of small-pox cases by iodine paint, and claiming that it prevented the subsequent pitting.—*Canadian Practitioner.*

THE SELF-LIMITED DURATION OF PULMONARY PHTHISIS. Read in the Section of Medicine at the Annual Meeting of the British Medical Association in Worcester, August, 1882. By AUSTIN FLINT, M.D., LL.D., Professor of the Principles and Practice of Medicine and Clinical Medicine, Bellevue Hospital, New York.

My object in this paper is to show that the pulmonary phthisis may have a self-limited duration; that, in a certain proportion of cases, this disease ends favorably, irrespective of any appreciable extrinsic agencies, recovery taking place, provided the nature and extent of the local lessions be not such as to render them either irreparable or innocuous. If the doctrine of self-limitation as applied to phthisis be not entirely new, it has, at all events, received as yet very little consideration in medical literature and in medical practice. If the doctrine in this application be true, it has important pathological and practical bearings, to some of which I shall briefly advert.

How is self limitation to be proved as applied to phthisis or to any other disease? Facts pertaining to morbid anatomy and to therapeutics may render the application of the doctrine probable; but, evidently, positive and complete proof can only be afforded by a collection of cases in which the disease pursued its course without active interference in the way of treatment, either medicinal or hygienic, and without notable changes in habits of life, or in any of the conditions under which the patients were situated when the disease became developed. For obvious reasons these requirements for absolute proof are not easily obtained in cases of a disease like pulmonary phthisis. Yet cases involving these requirements occasionally come under medical observation. The hopeful mental state which generally accompanies phthisis sometimes leads patients to trust altogether to nature for restoration to health, and to continue their usual manner of living without any alteration. Some patients do this from a conviction that they have not a malady of sufficient consequence to claim attention, beyond, perhaps, palliative remedies; and some from circumstances which render it difficult to do otherwise. Again, there are phthisical patients who do nothing in the way

of either therapeutics or hygiene from a thorough scepticism as to the advantage of doing anything.

In 1858, I had collected a considerable number of histories of cases of phthisis, recorded during the preceding twenty years of medical practice, and I was led to examine the collection for those cases in which there had been an arrest of the disease. Twenty-four cases were in this category. The histories of these twenty-four cases were analyzed with reference to points of agreement in the management; I assumed that in the points of agreement must lie the means by which the disease had been arrested, provided these points of agreement were not equally common in other cases in which the disease was not arrested. A striking result of this analytical study was, that in a few cases no appreciable influences, either of medication, diet, or regimen, had been brought to bear on the disease; the patients took no active remedies, and continued unchanged the same habits of living as before the development of the disease. It seems a logical inference that in these cases the disease was not arrested, but that the recovery was owing to an intrinsic tendency thereto. An abridged account of the histories of these twenty-four cases was embraced in a report published in the *American Journal of Medical Sciences*, January 1858.

In 1863, I had accumulated additional cases. The number amounted to sixty-two. The cases were studied analytically in the same way as those analyzed in 1858. In seven cases, no medicinal or hygienic measures of management were employed. The recovery in four of these cases was complete. In three cases good general health had been regained and maintained for a long period, some cough and expectoration remaining. An abstract of the histories of sixty-two cases was published in the *Transactions of the New York Academy of Medicine* for the year 1863.

In 1875 were published, in a work entitled *Phthisis in a Series of Clinical Studies*, the results of an analysis of the histories of all the cases of phthisis which I had recorded during thirty-four years, the number being 670. Of these 670 cases forty-four ended in recovery. Details of the history of each of the forty-four cases are given in the work sufficiently to render evident the

recovery and the correctness of the diagnosis. In addition to these forty-four cases, there were thirty-one cases in which the disease ceased to progress, and remained non-progressive for at least several months, and in most instances for several years. In these thirty-one cases, the phthisical disease was considered as having ended, complete recovery not taking place in consequence of irreparable lesions. As cases for analytical study with reference to the agencies which may have caused the arrest of the disease, these thirty-one cases of non-progressive phthisis seemed hardly less valuable than the forty-four cases which ended in complete recovery. Adding together the two groups of cases, out of the 670 recorded histories of phthisis, there were seventy-five in which the disease either ended in complete recovery or remained for a long period non-progressive.

Of the forty-four cases ending in recovery, in twenty-three there was no medicinal treatment to which arrest of the disease could be attributed. In several of the twenty-three cases there was no medicinal treatment; in the remainder of the cases, the treatment consisted of simple tonics, palliatives of cough, or remedies to meet some other symptomatic indications. Of the thirty-one cases of non-progression of the phthisical disease without complete recovery, in fifteen there was no medication by which it might be supposed the disease had been controlled, and in several no medicinal treatment whatever. The two groups of cases—namely, those ending in recovery, and those becoming non-progressive without recovery—thus furnished about an equal proportion of those in which medicinal treatment was either wanting, or in no degree curative, the proportion in the first group being twenty-three of forty-four, and in the second group fifteen of thirty-one. In respect of hygienic or non-medicinal treatment, in some cases of both groups there was no change whatever in habits of life or other circumstance. In other cases there were changes involving improved hygienic conditions, but in a considerable number the changes were such that a potential influence could not be attributed to them. It is probably correct to say that the changes may have favored the recovery or the non-progression, but that they were inadequate to arrest the disease. In my work is introduced a condensed history of

each of the seventy-five cases, which form the two groups now referred to.

A self-limited duration cannot be inferred from a single case, or from a very few cases, for this reason: the course and termination may have been affected by influences which are extrinsic, but not apparent. In order to obviate liability to error on this score, the number of cases must be sufficient to render it impossible, or vastly improbable, that in all such influences could have been overlooked. It is needless to say that the cases from which the inference of self-limitation is drawn must have been carefully observed and honestly recorded. Another requirement is essential—namely, there must be no room for distrusting the accuracy of the diagnosis. Assuming competency for observation and veracity, the diagnosis in each of the seventy-five cases is attested by the recorded histories, and it will be admitted that the number of cases is sufficiently large for the exclusion of error on the score of unrecognized extrinsic influences. The number of cases might be increased by the addition of those which have come under observation since 1875. This seems to be needless with a view to strengthen the conclusion respecting self-limitation. I therefore, submit, as substantiated by the clinical facts which I have cited, the following proposition—Pulmonary phthisis, in a certain proportion of cases, has a self-limited duration, the disease ceasing to exist after more or less progress of the local affection, all symptoms referable to the lungs disappearing, and recovery, as regards the general health, being complete. The disease is also self-limited in a certain proportion of cases in which lesions remain, giving rise to more or less of cough and expectoration, the persistence of these lesions not being incompatible with good general health and long duration of life.

It is an interesting fact that self-limitation is exemplified in the majority of fatal cases of phthisis. As is well-known, the disease, as a rule, advances not by a continuous progress, but by a series of successive invasions, separated by variable intervals. After each invasion, or, as it has been termed, tuberculous eruption, there is a temporary self-limitation of the disease. I will not venture on a discussion of the question whether this fact be sufficiently explained by the statement that each eruption

of tubercles for a time exhausts the tuberculous cachexia, or whether the fact be owing to the production of successive broods of the bacilli tuberculosis. It suffices to state the clinical fact. The fact suggests a capital object in the treatment, namely, prevention of renewed invasion. The continuous advancement of the disease, as an exception to the rule, is the pathological feature of the so-called "galloping consumption," or phthisis florida.

In the cases ending favorably, which have been referred to as furnishing proof of a self-limited duration, the diagnostic symptoms and physical signs were so well marked, as to leave no room for doubt as to the existence of phthisis. From cases which have come under my observation, I have been led to believe that not very unfrequently phthisis ends by self-limitation without having advanced far enough for the diagnosis to be considered as positive. A patient has had for some time a slight cough, either dry or with a scanty expectoration; there has been some loss in weight, and the body heat is somewhat raised, with, perhaps, spitting of blood. These symptoms, taken in connection with the age of the patient, and, it may be, grounds for suspecting a congenital predisposition, point to a tuberculous affection. But examinations of the chest in such a case may fail to reveal distinct physical signs. Very likely the problem, as regards the physical diagnosis, is to determine whether at the summit of the chest on the right side there are abnormal signs, or only the normal points of disparity between the two sides. There may be found only a subcrepitant *râle*, or slight pleuritic rubbing, or an interrupted respiratory murmur at the summit on one side, without conclusive evidence of tuberculous solidification. Under these circumstances, the physician either commits his judgment to a diagnosis of incipient phthisis, or as is more probable, he reserves an opinion for further developments. After a short time all the pulmonary and general symptoms disappear. Now, if incipient phthisis have been diagnosticated, the physician concludes that the diagnosis was erroneous. He feels obliged so to conclude, in consequence of the common belief that phthisis does not thus commence and end from self-limitation. But it is highly probable that the diagnosis was correct. Phthisis existed and ended in its incipiency. It would be proper enough to distinguish these as

cases of abortive phthisis. If I mistake not, all medical observers of much experience will admit that the foregoing sketch represents a class of cases not extremely rare. That they are not very rare is a fair inference from the frequency with which the traces of an old abortive phthisical affection are found in bodies dead with other diseases than phthisis.

A topic of practical importance is the bearing of self limitation on the prognosis in individual cases of phthisis. The analytical study of my collection of cases showed that, as a rule, in those which ended favorably from an intrinsic tendency, the tuberculous affection was moderate or small in amount, but that there are exceptions to this rule. All observers of much experience will agree that the prognosis in cases of phthisis is to be based more on the general condition of the patient than on the local symptoms and signs. To consider the elements of prognosis would be here out of place, even if time permitted. In general terms, the symptoms which denote tolerance of the phthisical affection, are those which indicate a favorable intrinsic tendency, and, on the other hand, pyrexia, progressive loss of weight, frequency of the heart's action, and anorexia, point to an opposite tendency. Of special importance, in a practical view, is the bearing of the doctrine of self-limitation on the conclusion to be drawn from observations, respecting the agency of therapeutic and hygienic measures in the treatment of cases of phthisis. How many and various are the remedies which have been supposed to have been sometimes curative in cases of this disease! Instances of their apparent curative power have been attested by honest observers. Making the fullest allowance for errors in diagnosis, I cannot doubt the credibility of more or less of these cases. Recovery has taken place under the employment of divers remedies; yet these remedies have so generally failed, that for the most part, they are now obsolete. The explanation of their apparent efficacy is to be found in the doctrine of self-limitation. The disease ended favorably, not from a specific influence of the remedies, but from an intrinsic tendency. This is not saying that the remedies may not have been, to a greater or less extent, serviceable. It may be laid down as a principle applicable to all diseases that, whenever experience has seemed to show success from treatment by a

variety of remedies the efficient cause lies in the disease itself. This principle becomes more evident the more we become acquainted with the natural history of diseases. To accept this principle is not to disparage medicinal treatment. In certain cases of phthisis, as of other diseases, self-limitation is a factor co-working with curative measures, and, as perhaps may be added, sometimes effective, in spite of measures which obstruct its operation. On the other hand, when this factor is feeble or wanting, curative treatment is not likely to prove of much avail. Evidently, in drawing conclusions respecting the curative effect of remedies allowance is to be made for this factor. The extent of its co-operation, doubtless, differs much in different cases, in some being sufficient in itself, and in others either considerable, or moderate, or slight.

The doctrine of self-limitation bears on the climatic and other measures entering into the hygienic treatment of cases of phthisis with not less force than on the employement of drugs. As regards climate, is there a practical theorem more perplexing to the practitioner of medicine than that of selecting the best resorts for phthisical patients, provided the selection be made on the basis of an impartial consideration of the reported results of climatic agencies in different situations? Underlying the exaggerations on the one hand, and on the other hand the depreciations of particular climatic resorts, founded on the different results in a few cases, is the factor of unknown power, self-limitation, the existence of which is generally ignored. Here is the explanation, at least in part, of the discrepancies of testimony concerning the results of climatic influences in different situations.

The extent of influence attributable to self-limitation in phthisis is by no means as yet ascertained. There is ample room for observation bearing on this point of inquiry. Impressed with the importance of clinical studies having this direction, I cannot forbear the remark that they promise more in the way of practical utility than has hitherto been derived from the discussion of the histologico-pathological questions which, of late years, have engrossed so much attention and occupied so large a space in medical literature.

SOME OBSERVATIONS ON THE USE OF THE TAMPON IN THE HÆMORRHAGE OF ABORTION. By RUFUS W. GRISWOLD, M.D., Rocky Hill, Conn.

The authorities of fifty and more years ago, in advising us as to the treatment of hæmorrhage in cases of abortion, made conspicuous mention of plugging the vagina, as one of the most potent and certain means of arresting the too copious and dangerous discharge of blood. Of course, other methods were also mentioned; but it is not a purpose of this paper to consider those other methods, but to remark somewhat on the procedure of plugging, the modes of its performance, and the materials used.

The reader who chooses to consult some of the obstetrical writers of two to three generations ago, will find that Denman mentions "lint, sponge, or any soft substance, wet with spirits of wine, or some astringent liquor," as the material for a vaginal plug in flooding; that Burns mentions tow, or a soft napkin; that Dewees recommended a soft sponge wrung out in pretty sharp vinegar, and of a size to fill the vagina; that Leishman endorses this as one of the most simple and effectual of ways and materials; that Churchill advises a silk handkerchief or tow as better; and that other writers mention soft cloths, handkerchiefs, cotton or sheep's wool, etc., for the purpose—the object in all being to so stuff the vaginal canal as to coagulate the blood, and thus prevent its passage from the uterus. This teaching, which has come down to, and been pretty generally accepted by, the profession of the present period, has of late been put under sharp review by some modern authors, and the material and methods subjected to severe criticism. Prof. Skene, of the Long Island College Hospital, says he has abandoned vaginal plugging altogether, in the flooding of abortions, because it controls the hæmorrhage only in part, and seldom completely, is troublesome both to physician and patient to use, and must be often renewed, because of the danger of septicæmia. There is a deal of truth in these reasons thus given. A complete control by the ordinary vaginal tampon, as ordinarily applied, is not to be had; in the

majority of cases, it will serve the purpose of saving the patient's life; but it is certainly attended with the risk that in some cases it will so far fail as to leave the life in great danger; and as to the troublesome part of it, it is positively not always an easy matter to thoroughly fill the vaginal canal with any of the materials herein alluded to, to the degree of entirely arresting an active flooding; nor can the procedure be always gone through with without a considerable amount of suffering by the patient.

But in abandoning this mode of practice, it is broadly open to question whether the methods adopted by the professor instead are not fully as uncertain as those he condemns—they being first to apply an outward compress secured with a bandage, and if this fails to keep the bleeding within the bounds of safety, to then tampon the cervix; for, in the first place, while it might answer to trust to a compress over the vulva in some not very sharp cases, so much under the hand as to be easily seen at very limited periods of time, as, for instance, an example in hospital, or one just around the corner, it is certain that no discreet practitioner would feel himself justified in trusting a bad job of the sort, which he could not see again in several hours (as must frequently happen in practice), to any sort of diaper tied on outside the door, where it would simply serve the purpose of absorbing the blood, in the same manner as it would absorb a discharge from the bladder, but would not stop the discharge; and in the second place, as regards tamponing the cervix, that would be hardly more secure, unless supplemented with a vaginal filling, since it may, and not unfrequently does happen, that an expulsive pain dilates still further the mouth of the womb, and either drives out the plug or leaves it to readily drop out, thus putting things in exactly the same condition as before. True, and as in addition to the insertion of a cervical tampon in the ordinary manner, obstetrician Barnes, of England, advises that the tampon be made by fastening cloths in a conical form around the end of a flexible rod, and, using this as the instrument, confine it in the vagina by the aid of tapes, so that it cannot be driven out. But this arrangement, while it may be comparatively easy of use, and may be kept from coming away, affords no protection at all against the further and continued dilatation of the neck of the

womb, which in most cases will be likely to go forward with such rapidity that the plug that filled the entrance, when inserted, will, the next hour, not half fill it, and the flooding will go on around its entire circumference, and with very little diminution of its violence. If there could be certainty, in any case, that the hole filled by Mr. Barnes' probang-plug tampon would prove like one in a barrel, fixed, potent to resist further expansion, and so easy to be kept filled, the whole matter would be changed, and the plan seem rational; but, as a matter of fact, the hole at the entrance to a uterus in the act of abortion is expanded somewhat, is easily expansible further, and in nine times out of ten is going to expand further, plug or no plug, till the contents are emptied out; besides which, the very pressure of the plug, producing thus a degree of irritation, is a provocative to expansion, and tends rather to aggravate than lessen the trouble against which the practitioner is contending. Despite the advice of so able a writer as Mr. Barnes, therefore, I think we shall do younger men good service by saying to them, that after they have fixed a very nice cone-shaped tampon on the end of a suitable staff, and got everything all ready to use it, they will compass a large amount of good by raising the nearest window and throwing the thing into the street. There is not the first element of safety in the arrangement Mr. Barnes proposes.

Differing from Skene and Barnes, Prof. Lusk, of Bellevue, advises the vaginal tampon, countenancing the materials mentioned by earlier writers, but discarding sponge, as being the least reliable, because of its porosity. But he regards any of the materials we have named, if used after the ordinary fashion, as only temporary makeshifts, and not to be trusted if the patient is to be left for a few hours out of professional oversight. He thinks the "highest degree of safety can only be secured by the closest observance of the rules of art;" and the closest observance of the rules of art in this condition consists in packing disks of carbolized cotton behind and around the os, by the aid of a Syms speculum and other gynæcological traps, and continuing down with them till we reach the narrow portion of the vagina, above the vestibule. The professor thus discards the tampons of his predecessors in midwifery as unreliable, except as temporary

expedients, not to be trusted long out of observation; and unless a great deal of care be taken in the ordinary way of packing, his view is in a measure correct; and great care in the ordinary way, as has been observed, is difficult to the attendant and troublesome to the patient.

The mode of procedure advised by Prof. Lusk, and the material indicated, commend themselves to our artistic taste and to our ideas of safety; but the employment of them supposes, first, that material and tools are either at hand or can be readily had; it supposes, also, proper and competent assistance, proper disposal of the patient as to light and position; and it supposes, further, plenty of time for the operation. If one could go to his case with a previous knowledge of the condition of things, and take all his traps along with him, in the same easy and collected manner as he goes to a case of ruptured perineum or of ovariotomy, the procedure recommended would be worth acceptance; but the truth is, that the vast majority of cases that come to the great body of everyday practitioners don't fall in the way. The treatment of flooding from abortion is generally an emergent treatment. You are called out to go a mile, two, five, ten miles, to see a woman supposed to be near death, frequently having no intimation even as to what may be the matter. You don't take along any Sims' speculum, nor any little paper bag of carbolized cotton wadding. You find a woman in the condition of dangerous collapse from the loss of blood, and sometimes with an even chance that if she loses another teacupful before you arrest the flow, she will go off entirely. The call is for immediate treatment; and the practitioner who wastes time in preparing carbolized cotton disks, syringing out the vagina, getting his patient in position for the introduction of a speculum, and all that sort of thing, while meanwhile the woman is getting worse and worse, may not be lacking scientific attainment in his profession, but he does lack—what is of vastly more importance for the moment—common sense, and the proper talent for the successful grasp of an emergency. It is the condition of emergency that requires the first attention; and if the treatment of the emergency is successful, and the hæmorrhage is arrested, it is of doubtful expediency to disturb that for the purpose of putting in a better

filling the next hour; if it fails, then the artistic procedure of Prof. Lusk commends itself to our attention.

After this criticism, I venture an expose of my own method of treating the flooding of abortion. When I began on these cases, thirty years ago, I followed the books, using sponge, handkerchief, cloth, etc., sometimes dry, and at other times wet in some styptic wash; but found them oftentimes difficult of introduction, and not always satisfactory. I continue to use these things, when I don't have what is better. The better thing is a junk of alum; the alum egg is a part of the contents of my medicine box. It is of the size of a large hen's-egg, oval in shape, without sharp points, but generally a little ragged. A bit of strong but not large twine is tied in a groove cut around the middle of the egg, leaving the ends so they will hang out of the vagina. To use this no preparation is necessary; no removal of the patient required. Separating the labia with the first two fingers of one hand, with the other hand the egg is introduced endways, turned half round, so as to bring the long diameter across the vagina, and pushed downward and then upward against the os. If the canal is large and open, the egg can be backed with sufficient packing to hold it in position; but in the majority of cases the supplementary support will not be needed.

This method of treatment is easy of use, speedy in operation, and effectual against further hæmorrhage. The blood escaping from the uterus is very soon clotted, and an effectual tampon, extending well into the os, quickly formed. The size of the tampon is increased by the same process of clotting of any further blood coming against it. The vagina is also filled by the same process. This treatment has never failed me; and after its use, I leave the patient with the feeling that she is safe for the next twelve or fifteen hours, so far as any danger from another attack of bleeding is concerned. No unfavorable effects have followed the use of the alum in this way in any of the scores of cases in which it has been employed; no fevers, no septicæmia, no deaths; nothing untoward; and I have never had occasion to use it the second time in any one case. The alum is a better antiseptic than any amount of carbolic acid that can be used; and for this, and its powerful astringent quality,

has an excellent after-effect upon both uterus and vagina. Another thing in its favor, as thus employed, over any system of vaginal packing with cloths or cotton, is, that micturition is not interfered with, as it sometimes is by stuffing the vaginal canal, and thus making pressure on the urethra. The alum can be removed when desired, either by traction on the cord or by the introduction of the fingers; the coagulated blood fished out, the vagina syringed, and the case further treated as circumstances may require.

The use of alum is barely alluded to in some of the older writings on the flooding of the uterus; but its employment in the way I have indicated is not common, nor much known. With an impression, the outcome of considerable experience with it, that it is a valuable remedy, this advocacy is respectfully submitted.—*The Independent Practitioner.*

PUERPERAL FEVER: ITS TREATMENT AND PREVENTION. By JOHN LOWE, L.R.C.S.I., L.R.C.P.E. and L.M., Lichfield.

No subject has created more anxiety or attracted more attention in recent years than that of puerperal fever; and as I have been unfortunate enough to have had some experience of this terrible disease, I do not wish to hide that experience, and the lessons derived from it, if its publication may prove useful to others.

I was engaged in a large London practice, nearly two years ago, where the number of confinements averaged over three hundred cases annually. Scarlet fever was very prevalent in the district, and later on erysipelas broke out as well. We isolated our cases most carefully, and were satisfied that a perfect system of disinfection was observed. We visited all the parturition cases earliest in the day, and I always used, and do so now, a mixture of carbolic acid and vaseline for aseptic purposes when attending confinements. I practiced, in fact, what is now called antiseptic midwifery. Notwithstading all this, a mild case of puerperal septicæmia occured in a case attended by my chief.

The abnormal tenderness, high but variable temperature, cessation of lochia, offensive stools, and lightheadedness, ending in maniacal behavior, combined to convince me that these were the expressive symptoms of puerperal fever poison, and Dr. Bristowe, who saw the case subsequently, fully concurred in this opinion. This case, after a protracted illness, eventually made a good recovery. A few days after the above case occured, the nature of the dire enemy was established beyond a doubt. Another woman, whom my principal had delivered of her second child, fell suddenly ill on the third day after delivery. She presented all the classic symptoms of malignant puerperal fever when I saw her twenty-four hours after the onset of the disease. I resorted to eliminate effete products from her blood, and had recourse to free stimulation and support. I cleared the lower bowel by enema, and I irrigated the uterus and neighboring pouches with carbolic acid solution every six hours. Fifty-two hours from the commencement of the disease pulmonary embolus manifested itself. It was now painful to witness the poor woman's suffering and it would be superfluous to describe it. She sank rapidly in the usual way. The third case, which was attended by myself, is more interesting, so I shall relate it more fully.

B. T., aged 27 years, had previous good health, but of bilious temperament. Delivered of third child on 28th Nov. 1880, with forceps and without difficulty. Did well until 5th Dec., when offensive diarrhœa began and lochia stopped. The temperature in axilla was 102.3° Fahr., and there were other minor symptoms. I gave her a strong powder containing calomel, jalap, and podophyllin, which improved the fæces in color and odor. Her diet was limited to broths and milk, with a little brandy occasionally. I washed out the uterus with carbolic acid solution, and the bladder with permanganate of potash solution, four times in twenty-four hours. On the 7th Dec. she fell into a thorough stupor, and could not be roused for more than two hours. After six hours she was semi-conscious, but her expression was very vacant, and her movements very purposeless. There was paralysis of left arm and leg, with constriction about pharynx, and inability to articulate. She had difficulty in swallowing

liquids. Incontinence of urine and fæces—the former very ammoniacal, although bladder was regularly washed out. Pulse 112, temperature 104.5°. Pallor, loathing of food, thirst, full pulse, very contracted pupils, and intense pain in right temporal region, with paralysis—sensory and motor—aforesaid, clearly pointed to localized cerebritis, the result of septic thrombus. I prescribed half an ounce of brandy in milk to be given every hour. 8th.—Respiration an effort. Fæces offensive, and urine as before, with a specific gravity of 1029. Amblyopia, contracted pupils, and other symptoms persisting. Can speak a little. Ideation much impaired. Treatment continued, increasing brandy. Ordered her an ounce and a half of castor-oil. 9th.—Slight offensive discharge from vagina. Temperature very variable. Uterus and bladder washed out as before. Headache is still severe, but the fæces are less offensive and more normal in appearance. I have had ice applied to her head since I diagnosed cerebritis. 11th.—She had no proper sleep since the 5th inst. Milk has been gradually disappearing from her breasts, but there is none secreted now. Slight but less offensive uterine discharge. There has never been any pain about uterus or abdomen. Pupils less contracted. Sight imperfect. Headache persists. Urine and fæces improve. Treatment continued. 13th.—Less thirsty. Had an hour's good sleep last night. Looks vacant. Speaking a great toil. Movements very slow and deliberate. Fæces and urine improved. Cerebral macula on left hip. In other respects as before, and treatment continued. 16th.—Better in all respects, except that there is slight incontinence of urine. Appetite improved. Pupils act well. Sensation and motor power have returned in leg to a slight extent. She progressed slowly yet certainly afterwards, and when I last saw her on the 23rd she had enjoyed regular and natural sleep, relished her food, and said that she felt quite well, if it were not for the paralysis. She had perfect control over both bladder and rectum.

I have stated that I believe the cerebritis was caused by thrombus, and not by embolus, in this case, as, if the latter were afloat, then the lungs or liver would most likely suffer, as indeed they more frequently do. The treatment of septic cerebritis by

administering brandy with easily digested but nutritious food, and the application of ice to the head, is suggested by common sense, and will be found useful in practice.

The fourth case was malignant in type occurring in a woman who was already in a hopeless condition from neglected syphilis. She exhibited the usual lung complication before death. The remaining five cases came under my notice early; and although each was in a very critical condition some time during the attack, yet they all recovered. One had periuterine inflammation for some time after, and another had uterine phlebitis with a large pyæmic abscess of the calf of one leg. I attribute recovery in these cases partly to their coming under treatment early, and partly to the good constitution of the women. In each case I encouraged free action of the liver, bowels, and kidneys, and I had frequent recourse to stimulation when it was indicated by past history or present symptoms.

I am strongly of opinion that by early and repeated aseptic intra-uterine injections, a rapidly acting cholagogue, washing out the bladder, if necessary, with some aseptic solution, and the timely and liberal use of stimulants, will avert death in many instances. It is no use giving the nurse instructions to wash out the uterus; we must do so ourselves by means of a long tube in the uterine cavity itself. Ammonia and brandy I regarded as the medicines for the disease; indeed when food is refused, brandy is not only most grateful to the patient, but it is peculiarly well adapted to supply the place of ordinary food, and no amount of fever or other symptom contra-indicates stimulation when changes so destructive to the vital fluids and tissues of the body are in terribly rapid progress. To give aconite or veratrum viride in such cases is, in my opinion, as unscientific as it is useless; and yet these remedies have been vaunted and are actually used by men of undoubted ability and eminence. To get rid of a fermentive poison from the blood we must adopt some such practice as I have indicated, and not stop to theorize about the physics of the circulation. We must, in other words, support vitality and eradicate the poison. That salicylates and sulpho-carbolates taken internally do not rectify the turbid urine in puerperal fever, I am convinced from experience; and I would

strongly urge that all depressant remedies are both hurtful and dangerous. It would be a waste of time and space for me to speculate on the etiology of puerperal fever, still more to discuss the appropriate term for the disease. In the same run of cases we meet with malignant puerperal fever septicæmia, and pyæmia. For my part, I believe that either may give rise to the other, and that scarlet fever or erysipelas may undoubtedly cause any of the above forms of puerperal mischief. This is my experience, and I have watched more cases under the care of others than those referred to in this paper.

I have now to call attention to what would appear to have received least attention: how best to prevent contagion. The golden rule hitherto has been to leave off attending confinements altogether for several weeks. This is generally a safe rule, but it is often a mighty inconvenient, and, I believe a most unnecessary one. It occured to me that by the strictest asepticism the spread of the disease might be prevented. I remained as short a time as possible in the lying-in room when attending confinements, lubricated my hands well with vaseline and carbolic acid, and had the carbolic spray playing between the patient and me during operations. The labor over, I washed out the uterus and vagina with carbolic acid solution in the usual way. Now, this proceeding has the advantage of cleanliness and safety, and is unobjectionable. From the moment I took these precautions there was not another case of puerperal fever in the practice, although I continued to attend cases as they turned up, and I cannot see how any one can fail to appreciate the efficacy of the treatment pursued. The inconvenience of the spray and its formidable appearence are not valid arguments against the practice: one additional puerperal case would be more inconvenient and more formidable. I will not pursue this subject further now, but merely give the foregoing remarks—made with much sincerety and earnestness—to the profession for consideration.

PROF. W. T. MONTGOMERY intends leaving Chicago about Feb. 1, for a six months sojourn in Europe.

DRY CUPPING AND REST Considered as a Means of Relief in a Case of Locomotor Ataxia. By HENRY M. LYMAN, A.M., M.D., Professor of Physiology and of Diseases of the Nervous System, Rush Medical College, Chicago, Ill.

In the early part of the winter of 1879–80, I was consulted by Mr. D——, a gentleman, then about thirty-eight years of age, a wholesale dry goods salesman, who was suffering with well-marked symptoms of locomotor ataxia. A single man, well-formed and vigorous in his general appearance, he could trace his disorder to no hereditary cause. He was, and always had been, exceedingly temperate and correct in all his habits, and had never experienced any severe sickness. He had never had either syphilis or gonorrhœa, or rheumatism. Shortly after the great Chicago fire in 1871, at which time he had been severely overworked, he began to suffer with lancinating pains and with paroxysms of painful micturition. For this he was treated at great length by an eminent genito-urinary specialist, who considered it a case of spasmodic stricture of the urethra. Treatment with bougies, etc., failed to give any relief, and was finally discontinued. For a number of years the patient continued his usual occupations with the greatest diligence and prosperity, and with the exception of the pains just mentioned he seemed to enjoy excellent health. During the course of the year 1879 he began to experience a certain degree of unsteadiness when walking, especially in the dark. After consulting a number of other physicians, he called at my office, and requested an examination. I found him presenting the usual symptoms of progressive locomotor ataxia—lightning pains, anæsthetic, paresthetic, and analgesic patches upon the surface of the limbs, absence of the tendinous reflexes, ataxic gait, diminution of the power of co-ordination in the muscles of the upper extremities, cracking of the joints, paroxysms of hyperæsthesia affecting the mucous surfaces of the mouth and pharynx, unequal contraction of the pupils, weakened power of accommodation, progressing atrophy of the optic papillæ, and failure of sexual appetite. I advised the use of ergot, which was shortly followed with nitrate of silver, and the daily use of the galvanic current.

Living at a long distance from my office, and actively occupied with the details of his business, the patient was quite inclined to neglect his treatment. He, however, fitted up a galvanic apparatus at home, which he employed with considerable skill. By this means he thought that his pain was somewhat relieved. He could not think of abandoning his work, which was then yielding him a large income, and I soon became convinced that his ataxic symptoms were increasing.

After an absence of several weeks, he one day called upon me, to relate his experience in New York, where he had been obliged to spend some time in connection with his business. While there he had consulted Professor E. C. Seguin, and was for several days under the eye of Dr. Geo. M. Beard. These gentlemen both concurred in the diagnosis of locomotor ataxia, and warned him against a marriage, for which he was making preparations, an opinion with which I heartily agreed.

During the month of February, 1880, my patient was quite tractable, and underwent a course of energetic treatment with the galvanic current, applied long enough over the back every day to produce great redness of the surface. He also continued the use of nitrate of silver. After taking about a drachm of the silver salt, iodide of potassium and bichloride of mercury were substituted in its place, but without any apparent effect.

As the spring and summer of 1880 progressed there was some relief of the painful symptoms. My patient ceased calling at my office, undertook a journey to California, and again visited New York, so that I did not hear from him again until the last of September, or some time in October, 1880, when he informed me that he had determined to run the risks of matrimony. The marriage took place about the middle of October, and the unfortunate bridegroom was so much exhausted by the event that he was obliged to keep his bed the greater part of the time without the slightest attempt or desire to consummate the union. From this time I lost sight of the case.

A few weeks ago I was much surprised by the information that my former patient had been completely cured by the use of Junod's boot in the hands of a non-medical empiric. I at once took measures to ascertain the residence of Mr. D——, and opened

communication with him again. From him I learned the following continuation of his history.

Almost simultaneously with the occurrence of his marriage the mercantile house with which he was connected became suddenly and unexpectedly bankrupt. By this failure he found himself thrown out of employment at a time when he was perfectly helpless. His physical condition became rapidly worse. Eyesight began to fail; ataxia increased, and the muscles of the lower extremities began to dwindle, lightning pains were frequent and agonizing. The rectum became anæsthetic and uncertain in its retention of fæces. The feet were cold and numb. When sitting erect the gluteal muscles would seem to roll outward with a sensation as if the tuberosities of the ischia had suddenly slipped down over the edges of the muscles. Walking was becoming very difficult, and was quite impossible in a dark room.

While in this pitiable condition some one advised him to consult an empiric who was treating rheumatism with Junod's boot. The interview did not produce a favorable impression, but inasmuch as the remedy was offered gratuitously if no benefit should accrue, Mr. D—— concluded to make the experiment January 8, 1881. At first there was no apparent benefit, though the apparatus was applied twice every day. After about a month the pains began to diminish, and the circulation began to improve in the extremities. Thus encouraged Mr. D—— procured a set of the cups, etc., and his devoted wife conducted the treatment at home. The cups were applied along the spine, and the limbs were treated with the boot. Gradually improvement took place, and during the summer of 1881 the pains were entirely relieved, and have never returned. The muscles also resumed their former volume; the rectum recovered its sensibility, and the sphincter renewed its appropriate function. Eyesight improved until now he is able to read without the slightest discomfort. Appetite returned; digestion was restored; the power of locomotion increased; and at the end of a year after the commencement of treatment, erections began once more to occur.

On examining Mr. D—— I found everything as he represented it. There is still some degree of ataxia manifest in the movement of the feet, especially when excited or weary. The upper

extremities are perfectly manageable. Anæsthesia has disappeared from the regions where it was formerly manifested, but the tendinous reflexes are still absent. The patient walks easily and rapidly without a cane, turning sharply around without difficulty, but he is unsteady on his feet with his eyes shut, and is unwilling to trust himself in the dark. The eyeballs move perfectly, but the pupils are contracted and do not respond readily to changes of light, though they move somewhat in accommodation. There is considerable atrophy of the optic disk. Difficulty is apparent in recalling proper names, but otherwise the intellectual processes are intact. Appetite, digestion, and sleep are perfectly natural. The patient no longer feels that excessive sensibility to changes of temperature which formerly troubled him. Erections take place as often and as completely as ever. Amatory feelings have revived, and sexual intercourse has been performed several times without much subsequent lassitude, but for prudential reasons has been discontinued. The patient feels competent to resume business, but is wise enough to see that his disease is not cured, and that discretion is still the better part of valor. He still continues the use of the cupping apparatus every other day, and is positive in his conviction that his improvement, though gradual is progressive. It is certainly true that his condition is vastly superior to what it was when I previously saw him at the time of his marriage—an improvement which is due in part to his long vacation from business, and in no inconsiderable part to the powerful counter irritation and derivation effected by the use of the cupping apparatus. If this had produced no better result than the mere relief of pain it would still be invaluable in his estimation. Its effect upon the general health and nutrition gives it the right, in this case at least, to rank with hydrotherapy, massage, and the Swedish movement cure as a method of treatment which deserves trial as a means of retarding the progress and relieving the anguish of one of the most intractable of diseases.

September 8, 1882.

GOVERNMENT PROTECTION NEEDED. By HENRY B. BAKER.

Permit me to ask your attention and the attention of the public and its representatives in congress to the urgent need for legislation immediately on the assembling of congress, which shall make an appropriation for the continuance of the immigrant inspection service, now partially sustained by the National Board of Health. By reductions in force and in pay that board has been able to continue the service until Dec. 15, but after that time it will have to stop, unless Congress will immediately pass a bill or joint resolution which shall provide especially for the continuance of the immigrant inspection service. Experience would seem to suggest that it would be wise to intrust the disbursement of the funds and the supervision of the service to the National Board of Health in preference of any other United States department or service.

During the 18 weeks ending Sept. 30, 1882, there were inspected at Port Huron about 18,000 immigrants, and at Detroit about 23,000—nearly 41,000 immigrants at the two points. Of these who passed through Port Huron a large number had not been previously inspected; over 12,000 certificates of protection from small-pox were issued at that port, nearly 8,000 immigrants having been vaccinated there during the 18 weeks, and thus that number protected from getting and spreading small-pox. At the two stations 178 sick in transit were found, 85 of whom had measles. This brief summary may convey an idea of the extent of the labor in this State; but the necessity for such a service may be apparent by referring to the incessant struggle which the health authorities throughout this and other States have had and are having with small-pox and other contagious diseases which, since the immigration has been so great, have been introduced at so many places and so frequently that it seems impossible much longer to prevent these diseases from becoming generally epidemic throughout this country, more particularly the northern and western States where the immigrant and other travel is great. Thus, in Detroit a special meeting of the board of health was recently called to consider the question of closing the schools

because of the prevalence of diphtheria. A late paper says: "Public funerals are forbidden in Boston Mass., on account of the prevalence of diphtheria and other contagious diseases." In Cincinnati cases of small-pox have been so numerous, it is alleged, that the health officials have suppressed the facts in order to prevent a panic; but the number reported has been large.

Michigan has hardly been free from small-pox in the past year, and at many places, such as Grand Rapids and Detroit, the local health authorities have been almost constantly engaged in combatting it until some time after the inspection service began. Diphtheria and scarlet fever have been constantly present in many parts of the State; and they break out at new places about as fast as they are controlled at others. Some of the contagious diseases are yet constantly being introduced, notwithstanding the government inspection, because the service has been mainly confined to preventing the introduction and spread of small-pox. The deaths from each of several of the other contagious diseases greatly outnumber those from small-pox. These several facts show the importance of not only continuing the immigrant inspection service with respect to small-pox, but also granting the protection of the U. S. government from the continuous introduction from abroad of other contagious diseases, especially diphtheria and scarlet fever. It is believed that neither small-pox nor other communicable disease are originated in Michigan, but are so continually being brought into this country and into the State by means of commerce and immigration, that neither the local or the State boards of health are able to free the country or the State from these contagious diseases. The attempt is even more difficult than would be the case with the several fire departments if articles capable of spontaneous combustion were being thus frequently and generally introduced.

If local health authorities undertake to stop the introduction of disease, their best methods will cause delay to travel and interference with what seems to be of national concern. The expense, also, of the inspection, at Port Huron, for instance, is too great to be borne by that city; especially as the danger from the introduction of diseases at Port Huron extends to every part of the

northwest, as far as Manitoba. A large part of the small-pox in Michigan has been traced to Chicago; but without immigrant inspection Chicago gets contagious diseases by way of Port Huron, as well as by other routes. Port Huron is a port where great numbers of immigrants first touch United States soil, and is a point where it is of great importance that there should be a thorough inspection and many primary vaccinations. Detroit is a point where it seems very desirable there should be an inspection station for inland inspection and surveillance; a few immigrants also first enter this country at that port.

Before the inspection service began, there were frequent importations of small-pox into this country and this State by immigrants; but since this service has been established its influence extends backward on the lines of travel, and is effective for good on board the ship, on which the immigrant sails, and it continues to his destination and the necessary surveillance after his arrival at his destination; consequently the importations of small-pox have been very much less in number, because the knowledge that rigid inspection is enforced in Michigan and Illinois, etc., tends to make the examinations and vaccinations on board ship and at ports of entry more complete and thorough, and the local health authorities can be informed of the entrance of immigrants into their jurisdictions, and the public health be in some measure protected.

What is needed is that the immigrant inspection be continued and the inspectors directed to pay more attention than heretofore to scarlet fever and diphtheria and to the disinfection of all luggage believed to be infected with any disease especially dangerous to the public health. At the present time no person should take the risks of travel without the protection of vaccination. The vaccination of unprotected immigrants is needed not only for their own protection because unusually exposed to small-pox en route, but also to prevent them from spreading the diease broadcast throughout this country.—*Lansing Republican.*

SOME PERSONAL REFLECTIONS.

The present issue closes the third year of the publication of the ANNALS OF ANATOMY AND SURGERY, as a monthly periodical, and it seems to be a favorable time for indulging some reflections as to the reason of its being, and the aims of its future. It still remains, as when instituted, the only journal devoted to Surgery, and to Anatomy as related to Surgery, published in the English language. The first number of the *Revue de Chirurgie*, which appeared in France nearly at the same time, added a similar journal for the use of those familiar with the French language—"Langenbeck's *Archives*," "Volkman's *Series of Clinical Lectures*," the *Centralblatt*, and the *Zeitschrift für Chirurgie*, have continued to present to readers of German the surgical work of that nation. That in America also should be maintained a special journal of Surgery, there is found ample reason in the number and quality of the special workers in this field, in the character of the problems which engross its students, and in the rapid strides towards scientific precision, which surgical practice has witnessed within the past two decades. It is true that much of a surgical character appears in the general medical journals of this country, and especially in the great weeklies. These afford a specially favorble field for the first announcement of any step or fact, that its wide diffusion may be early secured, but in the crowding of the weeks upon each other, and in the variety of the interests which the columns of the weeklies must reflect, they cannot be so well adapted for elaborate articles, nor for presenting matter in the way best adapted for preservation and reference. The general weekly journal, moreover, can give to new publications nothing more than cursory notices that are of no value, either in aiding a reader to form an opinion as to the character of the work noticed, or to keep himself informed of the advances in knowledge that it may evince. The long intervals at which a quarterly appears, are too great for the interest in it to be sustained from one number to another.

However, it may once have been, a monthly or a quarterly which now attempts to include in its compass the whole of medi-

cine, is at once crippled by the size of the field, but if it restricts itself to a special department, it presents the happiest union of the elements needed for the best presentation of whatever may be of permanent value in that department. The specialization of journals is thus, but the natural result of that specialization of study and practice which is the inevitable result of the growth of knowledge. The power of this tendency to specialization has shown itself in the gradual development of this journal from being the simple record of a special local society, to a point where it may presume to claim consideration as an exponent of American Surgery in general. In order to favor the future development of the journal as a general exponent of Anatomy and Surgery, it has been thought best that it should not be, even apparently, the organ of any one society, and accordingly the Anatomical and Surgical Society of Brooklyn, by whose direction and support it was inaugurated, have relinquished their special interest in it, and henceforth its editors will be solely responsible for its contents and character.

On the eve of the beginning of a new year, the editors take the opportunity of announcing their aim to continue the practical and high character of the contents of the journal, and to make its tone progressive and liberal. They will have the assistance of the same corps of associate editors as in the past, with the addition of Dr. Roswell Park, of Chicago, Lecturer on Surgery in Rush Medical College, and surgeon to the Michael Reese Hospital. The *Annals of Anatomy and Surgery* will therefore continne to be issued monthly, and will present, in each number, detailed studies and elaborate articles from special contributors, and careful editorial reviews, digests and discussions of such topics and books as may seem to be of special importance, from time to time. Articles for the journal are now in course of preparation by Prof. W. T. Briggs, of Nashville, Tenn.; C. B. Keetley and R. J. Godlee, Esqs., of London, Eng.; Dr. H. D. Schmidt, of New Orleans, La.; Profs. Moses Gunn and Edmund Andrews, of Chicago, Ill.; Prof, W. W. Keen, of Philadelphia; Prof. Hunter McGuire, of Richmond, Va.; Dr. H. A. Martin, of Boston, Mass.; Prof. F. H. Gerrish, of Portland, Me.; Dr. F. W. Rockwell, of Brooklyn, N. Y.; Profs. T. F. Prewitt and

L. Bauer, of St. Louis, Mo.; Prof. P. S. Conner, of Cincinnati, O.; Prof. Randolph Winslow, of Baltimore, Md.; Drs. H. Banga and W. T. Belfield, of Chicago, Ill.; Prof. A. L. Ranney, of New York; and Prof. Wm. Osler, of Montreal, Canada.

The scope of the journal will include also, as indicated by its title, particularly those lines of anatomical research which have a bearing upon practical surgery.

The scholarly sketches of the old masters of Anatomy and Surgery, which for three years have regularly appeared in the journal, from the pen of Dr. George Jackson Fisher, of Sing Sing, N. Y., will be continued during the year to come. Beginning with Avicenna in the January number, Hally Abbas, Albucasis, and the school of Salernum will successively form the subjects of sketches.

During 1883, in addition to the features which have heretofore characterized the journal, it will publish the proceedings of the New York Surgical Society, which will include many elaborate papers and discussions of the greatest value.

Finally, whatever shall promise to make the journal more completely representative of American Surgery, or more valuable to American surgeons, it will at all times be the effort of its editors to adopt.—*Annals of Anatomy and Surgery.*

THE RESULTS OF NERVE-STRETCHING.—Dr. Ceccherelli provides a useful catalogue of 119 books and essays which treat of nerve-stretching with a summary of the history and results of the operation. The origin of the operation he traces to Billroth's treatment of a man who had bruised his right buttock severely and suffered from pain and formication in the right leg, with spasms starting from the leg, extending all over the body and endangering his life from arrest of respiration. Billroth exposed the right sciatic nerve and examined it carefully up to the sciatic notch, without finding any obvious injury, or imagining that he had done any good. The man, however, got well, and the conclusion was drawn that the manipulation of the nerve had effected his cure. Nussbaum took

up the idea and made an experiment in 1872 on a man who had an abcess in the neck, which left his arm contracted and anæsthetic on its anterior surface. He laid bare the brachial plexus, and, though he found no abnormality, stretched all the component nerves strongly one by one. Some violent spasms followed, but the contracture disappeared and the sensibility returned. Since then, remarks Dr. Ceccherelli, nerve-stretching has become a part of practical surgery. Experiments show the great elasticity of nerves and their great strength. The larger trunks may be lengthened about 5 per cent., but they slowly sink again to almost exactly their original measurement. The sciatic in the dead body requires a weight of about 186 lbs. to break it [a force equal to the full strength of the grasp of a very strong hand; or, in other words, the sciatic is sufficiently strong to support a man of 13 st. weight.] Anatomically, violent stretching produces ecchymoses under the perineurium, and separation of the axis-cylinders from the neurilemma. Physiologically, it is somewhat doubtful whether the results are due to an alteration in the central or the peripheral end of the nerve, or in the substance of the nerve-trunk itself. There is no doubt that in a few instances the spinal cord is affected by traction on the nerves, as in a case of forcible reduction of the humerus after five weeks dislocation where the strain on the brachial plexus, which was matted together by inflammatory products, tore the substance of the cord and produced hæmorrhage there. The microscope throws little light on the more ordinary changes. An effect on the gray matter of the cord is sometimes argued from tropic changes which follow stretching, but these occur only when considerable violence is used. The usual result is temporary loss of sensation, without any effect on motion. Permanent loss of sensation and slight loss of motion may be produced by greater violence. Why the sensation should be the more readily affected is not plain. It is a convenient but quite unproven hypothesis that the sensory fibers are broken more easily than the motor. In surgical practice two methods are used: (1) Stretching of the nerve may be produced by very violent movements of a limb; *e.g.* Trombetta is recorded to have cured an old case of sciatica at once by flexing the hip to such an extent that the foot nearly touched the mouth: (2)

The method far more commonly in use is to expose the nerve and stretch it with the finger or some instrument. Whether it is better to draw on its central or on its peripheral end must be considered unsettled, and the force to be used to the best advantage is a matter mainly of conjecture, though most surgeons of of experience recommend more than seemed to them at first advisable.

From the large body of statistics which Dr. Ceccherelli has brought together may be constructed the following table, under hia own headings:

	Total.	Successful.	Unsuccessful.	Deaths.	Improvement.	Doubtful.
Neuralgia	99	74	6	—	12	7
Contractures	14	13	—	—	1	—
Tic	7	6	1	—	—	—
Spasm from injury	12	10	1	—	1	—
Peripheral paralysis*	34	34	—	—	—	—
Diseases of nervous centers	36	5	7	8	16	—
Epilepsy	4	1	1	—	2	—
Tetanus	45	14	—	29	—	2
Stretching of optic nerve	1	—	—	—	1	—
Total	252	157	16	37	33	9

The considerable excess in such dangerous cases as those of tetanus encourages Dr. Ceccherelli to recommend the treatment for a first tral. Under the diseases of nervous centers are entered the operations for relief in locomotor ataxy with the exception of sixteen recent cases of Langenbuch, in six of which he represents the pain as cured, and in the remainder the operation as too recent to justify any tabulation of the results. Benedikt throws a doubt on the ataxic nature of Langenbuch's cases, and it should be remarked that Langenbuch holds a theory of the pathology of locomotor ataxy which has few supporters (*cf.* Ricklin, *Gazette Méd. de Paris*, July 1881), viz: that it is generally started by cold, and is a peripheral lesion spreading centripetally along the nerve-trunks and by direct continuity into the posterior root-zones of the spinal cord. Bernhardt and Westphal take a decidedly

* In 30 cases a re-establishment of sensation in anæsthetic leprosy was produced by light traction on the nerves.

adverse view of the operation, saying (Feb. 1882) that they have known of no case of cure or even of decided improvement in locomotor ataxy by this means. Dr. Ceccherelli himself is inclined to favor the use of the treatment in states of such hopeless and agonizing character as occur sometimes in the course of locomotor ataxy. (*Lo Sperimentale*, Sept. 1882.)

BOOK NOTICES.

THE MEDICAL RECORD VISITING LIST, OR PHYSICIANS DIARY FOR 1883. New York: Wm. Wood & Co.

This elegant pocket record appears fully furnished forth with things indispensable to the busy doctor, in compact brevity.

BLAKISTON S VISITING LIST.

The oldest book of the kind well-known to the profession, needs no comment. It contains about the same memoranda as usual, with the addition of the dosage of the rarest and newest drugs.

THE LAS VEGAS MEDICAL SOCIETY, of New Mexico, held their annual meeting at the Plaza Hotel,
Vice President Dr. M. W. Robbins in the chair.

On motion, reports of the secretary and treasurer were read and accepted.

On motion, the society decided that no vote by proxy would be accepted.

The society then proceeded to the election of officers for the ensuing year. The presiding officer appointed Doctors Peebles and Milligan tellers. The following officers were unanimously elected: Dr. W. H. Page, president; Dr. M. W. Robbins, vice president; Dr. W. H. Ashley, secretary; Dr. R. Baily, treasurer; Dr. M. M. Milligan, librarian.

THE EIGHTH SESSION of the International Medical Congress will take place in Copenhagen from the 10th to the 16th of August, 1884.

Items.

EDITORIAL NOTE.

It will be seen that, from the cover of this first number of THE CHICAGO MEDICAL JOURNAL AND EXAMINER for 1883, the names of its editors have been omitted. The change is one which has long been contemplated, and which will, it is hoped, be found useful and practicable in the further conduct of this organ of the Press Association. Hereafter its management will be impersonal, and THE JOURNAL will rest upon its intrinsic merits for a continuation of that favor on the part of the profession which has placed it in its present position. That position is, as regards Western journalism, one of unprecedented financial and general success.

DR. W. T. BELFIELD, whose interesting letters from Germany have from time to time appeared in the JOURNAL AND EXAMINER, will deliver the Cartwright course of lectures of the Alumni Association of the College of Physicians and Surgeons of New York. The lectures will be given on the evenings of February 19, 21, 23 and 26, in the Y. M. C. A. hall, opposite the college. The subjects will be the relations of micro-organisms to disease.

RUSH MEDICAL COLLEGE has honored itself, and conferred a deserved compliment upon Dr. E. Fletcher Ingals by electing him Professor of Laryngology.

IN consequence of a delay in preparing its illustrations the supplementary paper by Dr. H. D, Schmidt, of New Orleans, on the Bacillus Tuberculosis is deferred to the next issue of the JOURNAL. The matter is already in type and will certainly appear in the February number.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 to 2.15 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical by Prof. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes: 3 to 4 p. m., Diseases of the Chest, by Prof. Ross.
Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Dudley.
Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—1.15 to 2.25 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30, p. m., Ophthalmological, Dr. Holmes.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.
College of Physicians and Surgeons—2 p. m., Medical, by Prof. S. A. McWilliams; 3 p. m., Surgical, by Prof. R. L. Rea.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—2 p. m., Gynæcological, by Prof. Stevenson.
College of Physicians and Surgeons—2 p. m., Diseases of the Chest, by Prof. S. A. McWilliams; 3 p. m., Gynæcological, by Prof. A. Reeves Jackson.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, at the South Side Dispensary and at the West Side Dispensary.